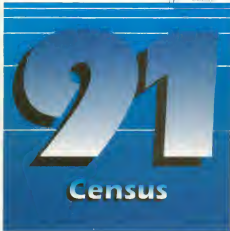




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# Age, Sex, Marital Status and Common-law Status

1991 Census Technical Reports



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Statistics Canada

# 1991 Census Technical Reports

## Age, Sex, Marital Status and Common-law Status

Reference Products series

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## Preface

Through time, the Census of Canada has become the primary source of information about Canadians and how they live. Decisions based on this information affect the social and economic affairs of all Canadians.

Statistics Canada, as the professional agency in charge of producing this information, has the responsibility for informing users of data quality. The agency must describe the concepts and methodology used in collecting and processing the data, as well as any other features that may affect their use or interpretation.

In order to describe the quality of the 1991 Census data, Statistics Canada has prepared the following publications: a census **Dictionary**, which provides concise and easy to understand textual and graphical information pertaining to census concepts; a **Handbook**, which provides an overview of how the census is conducted; and a series of **Technical Reports**, which present in greater detail, information on the quality of data for specific characteristics, such as age, sex, marital status and common-law status, as covered in this report.

Information on data quality is important for users. It allows them to assess the usefulness of census data for their purposes as well as the risks involved in basing conclusions or decisions on these data. The 1991 Census was a large and complex undertaking and, while considerable effort was taken to ensure high standards throughout all collection and processing operations, the resulting data are inevitably subject to a certain degree of error.

Information on data quality is also important to Statistics Canada. It is an integral part in the development and maintenance of pertinent and reliable statistical programs.

This publication is a major contribution to achieving these goals. It has been prepared by Daniel Larrivée, with the support of staff from three Divisions in Statistics Canada: Demography, Census Operations and Social Survey Methods.

Finally, I would like to express my appreciation to the millions of Canadians who completed their questionnaires on June 4, 1991, as well as to those who assisted Statistics Canada in planning and conducting the census.

Ivan P. Fellegi  
Chief Statistician of Canada



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## I. Introduction

Every five years a census of population is carried out in Canada. The national Census of Population is a major project conducted by Statistics Canada to collect, verify and publish data. The national census provides the most comprehensive database on the characteristics of Canadians, their families and their households. The information ranges from age and sex of individuals to their ethnic origin, education, occupation, labour force activity, industry, sources of income, their family and household characteristics. The census is an invaluable source of information that is useful to the various levels of government, to businesses, associations, educational institutions, interest groups, and to the general public. The data can be used in government planning of social and economic programs, assessment of the need for educational and health facilities, and planning by private enterprise.

Information is obtained through a series of questions established after detailed consultation and testing. It is collected by trained enumerators, checked for inconsistencies and errors and forwarded to Revenue Canada Taxation (RCT) regional centres for data entry. The final results are placed on a computer database at Statistics Canada. Data are analyzed, published and disseminated in various forms.

In a massive project such as the census, however, the results are never perfect. Although considerable effort has been made to maintain high standards of quality, errors inevitably occur at various stages of the collection and processing operations. Users must be aware of the nature and scope of any errors that the census data may contain, as well as the risks involved in basing conclusions or decisions on these data.

The **1991 Census Technical Reports** have been designed to inform data users of the potential problems or intricacies of the data. The reports inform users of the conceptual framework and definitions used in the data collection, any unusual circumstances which may influence the data, likely principal sources of error and, where possible, the size of the error.

This product is a specialized analytical tool. It complements and co-ordinates other reference products and assists the more sophisticated user to understand variable details and methodology.

## II. Concepts and Definitions

The census concepts relating to age, sex, marital status and common-law status are defined in this section. The age variable (derived from a question on date of birth) and the sex variable pose few problems of interpretation. The marital status and common-law status variables, however, require more careful attention.

The above mentioned variables were obtained for the entire population. However, an exception to this generalization was the common-law variable (which was not asked of persons living in collective dwellings or persons living outside of Canada).

The census data can be distinguished according to four distinct "universes", including the population universe (which includes variables pertaining to individuals), the family universe, the household universe and the dwelling universe. The variables discussed in this technical report all fall within the population universe.

### 1. Date of birth

As defined in the Census Dictionary, date of birth refers to the day, month and year of birth, collected for the purpose of determining the person's age as of Census Day. People who were unable to give their exact date of birth were asked to give the best possible estimate.

The threshold values for acceptable responses were January 1, 1870, and June 3, 1991.

This question, which has been asked on all census forms since the first Canadian enumeration, has undergone little change. In 1966 and 1971, however, respondents were asked to indicate their age in completed years as of their last birthday preceding Census Day. In 1961, published data for single years of age were first smoothed within each five-year age group to counteract the "pull" toward rounded numbers, that is, the tendency of respondents to "round off" their age. In 1966 and 1971, this was not done, and the published tables represent the data as reported.

### 2. Age

Age refers to the respondent's age at his/her last birthday (as of the census reference date, June 4, 1991). This variable is derived from the response to the question pertaining to date of birth. Results are available by single year of age, and acceptable threshold values are from 0 to 121 years.

Once the edit and imputation operations have been completed on the date of birth variable, age is derived using the following algorithm:

$$\begin{aligned}
 \text{AGE} &= [1991 - (\text{DECADE} \times 10 + \text{YEAR}) - (\text{MONTH} - 1)] \\
 \text{where } & \quad \quad \quad 1991 - (196 \times 10) - (2 - 1) \\
 \text{DECADE} &= 187, 188, \dots, 199 \quad \quad \quad 1991 - 1760 = 1 \\
 \text{YEAR} &= 0, 1, \dots, 9 \quad \quad \quad \begin{array}{r} 1760 \\ 30 \\ \hline 1790 \end{array} \\
 \text{MONTH} &= 1 \text{ (from January 1 to June 3)} \\
 & \quad \quad \quad 2 \text{ (from June 4 to December 31)}
 \end{aligned}$$

Hence, the age of a person born on September 5, 1960, is calculated as follows:

$$\begin{aligned}
 \text{AGE} &= [1991 - (196 \times 10 + 0) - (2 - 1)] \\
 \text{AGE} &= [1991 - 1960 - 1] \\
 \text{AGE} &= 30
 \end{aligned}$$

### 3. Sex

Sex refers to the gender of the respondent. Respondents were asked to specify their gender in order to facilitate processing of responses and avoid any confusion in interpreting first names (for example, the sex of a person is not obvious from first names such as Jean, Leslie or Francis).

### 4. Marital status

Marital status refers to a person's conjugal status. This variable underwent an important change in the 1991 Census. Contrary to previous censuses, respondents were asked to give their legal marital status. The options listed were: legally married (and not separated), legally married and separated, divorced, widowed, never married (single).

The categories were defined as follows:

#### Legally married (and not separated)

Persons whose spouse is still living, unless the couple is separated or a divorce has been obtained.

#### Legally married and separated

Persons who have been deserted or who have left because they no longer want to live together, but have not obtained a divorce.

#### Divorced

Persons who have obtained a legal divorce and who have not remarried.

#### Widowed

Persons who have lost their spouse through death and who have not remarried.

#### Never married (single)

Persons who have never married (including all persons less than 15 years of age) or persons whose marriage has been annulled and who have not remarried.

In this way, persons in common-law unions could be classified according to their legal marital status. Prior to 1991, however, persons in common-law unions were included in the "now married (excluding separated)" category, and so demographic data on marital status are not comparable with data from previous censuses. In order to maintain the historical comparability of the 1991 data on marital status, an additional set of data is therefore provided, derived from the question on legal marital status and the question on whether the person was living with a common-law partner. A more detailed description of the problems in comparing data on marital status is provided in the section entitled "Historical Comparability".

### 5. Common-law status

Common-law status refers to the status of persons who live together as husband and wife, but who are not legally married to each other.

Prior to the 1981 Census, no data were available on the number of persons living in common-law unions. With the 1981 and 1986 Censuses, data were derived from a question concerning the relationships between the reference person and other members of the household. In 1991, however, a specific question regarding common-law status was directly introduced, such that data could be derived from this question in conjunction with the information on the relationships among household members. Furthermore, the addition of this question pertaining to common-law status and a modification of the question pertaining to marital status, makes it possible to obtain data on the legal marital status of persons living with common-law partners.

### III. Data Collection and Coverage

The 1991 Census of Canada, held on June 4, served to collect information on more than 10 million dwellings. Persons were enumerated at their usual place of residence, regardless of where they happened to be on Census Day. This method of enumeration is known as the "de jure" approach to census-taking. Also enumerated were any Canadians staying in a dwelling on Census Day who had no usual place of residence elsewhere in Canada.

#### 1. Data collection methods

Two collection methods were used for the 1991 Census: self-enumeration and canvasser enumeration. In self-enumeration areas, a questionnaire was dropped off at each household before Census Day. A member of the household was to complete the questionnaire on Census Day. Questionnaires were mailed back in pre-addressed envelopes.

Self-enumeration was first introduced in the 1971 Census. This method is relatively inexpensive and gives respondents time to consult birth certificates, income tax returns and other information sources. Moreover, this method eliminates the risk of inaccurate interpretations by census representatives.

In the 1991 Census, less than 2% of households were enumerated by canvassers; census representatives completed a long form questionnaire for these households by interview. This method was used to enumerate each household in remote or northern areas and on Indian reserves where irregular mail service makes mail-back impractical. In addition, some remote northern areas were enumerated for the Census during March 1991. This early enumeration was established in areas where communities "break up" in the spring in order to migrate to various hunting and fishing areas.

For the very first time, an attempt to enumerate homeless people through soup kitchens was done on an experimental basis for the 1991 Census. A sample of soup kitchens across Canada were visited. Form 3B was used by Census representatives, to interview each person as they arrived at the soup kitchen for a meal. It is anticipated that coverage improvement may be obtained in the larger cities as a result of this special enumeration procedure.

A public communications program and multilingual telephone assistance service supported data collection operations.

The multilingual Telephone Assistance Service (TAS) was available to households that had problems understanding census questions or that did not receive a questionnaire. The TAS numbers were printed on the back of each questionnaire and calls were free of charge. During its operation, over 280,000 calls were handled by TAS. The service was also available for users of telecommunication devices for the hearing impaired.

#### 2. Sampling

Some data were collected from a 20% sample of the population (one out of every five households), while other data were collected from the entire population. Data relating to age, sex, marital status and common-law status were derived from questions asked of the entire population. Although the type of questionnaire varied by type of dwelling (private versus collective), such differences had no effect on results since the content relating to age, sex and marital status was in the same format on all questionnaires.

### 3. Edit and follow-up

For age, sex, marital status and common-law status, the first quality control operation was to verify that responses were given for every enumerated person on each of the four variables. In the case of non-response, the census representative was required to follow up, that is, contact the respondent in question and attempt to obtain the missing information. With regard to the date of birth question, where the day was not specified, but the month and year were indicated, the census representative was required to do a follow-up only if the month of birth was given as "June". In addition, if no response was given for the question on common-law status, but the response to Question 5 was "Legally married (and not separated)", then this latter response was accepted. At this stage of enumeration, local census representatives were not required to assess the relevance or consistency of responses on the questionnaires.

### 4. Coverage

Respondents were required to meet the following eligibility criteria:

- Canadian citizen or landed immigrant on Census Day;
- Canadian citizen or landed immigrant who was outside Canada on Census Day, but who had a usual place of residence in Canada (Canadian government representatives, members of the Canadian Armed Forces, and persons on merchant vessels or ocean liners, and their families);
- Canadian citizen residing abroad; attached to a diplomatic mission or in a military corps.

For the first time in 1991, the census of population also included non-permanent residents. They include:

- persons holding student authorizations;
- persons holding employment authorizations;
- persons holding Minister's permits;
- refugee claimants.

Foreign residents are not enumerated and so are excluded from the census. They include:

- representatives of governments of other countries and their families;
- members of the Armed Forces of other countries and their families;
- residents of other countries visiting in Canada temporarily.

In an effort to improve coverage in the 1991 Census, Statistics Canada introduced lists of addresses called "address registers" (ARs).

Census representatives were required to compare addresses recorded on the Visitation Record during questionnaire drop-off against the address register (AR) list. Where an address from the AR list could not be matched with a corresponding address on the Visitation Record, the census representative was required to revisit the area in an attempt to locate the dwelling at the missed address. Conversely, if the AR was missing an address listed by the census representative, the address was added to the AR after the census.

The address register was used for the first time in the 1991 Census in an effort to improve coverage. It was estimated that the use of address registers in the census data collection process would improve population coverage by 70,000 people, including persons who might otherwise be missed.

## 5. Questionnaire and instructions

Questions relating to date of birth, sex, marital status and common-law status, as they appear on the 1991 Census form, are reproduced below.

Question 3 on the census form asked respondents to print the day, month and year of their birth in the appropriate spaces. Where the exact date was not known, they were asked to enter the best estimate. It is from these data that the age of respondents in completed years was calculated. This question was the same as in the last census.

<b>3. DATE OF BIRTH</b> Print day, month and year. <i>Example:</i> <i>If this person was born on the</i> <i>10th of February 1945, enter</i> <table border="1"><tr><td>Day</td><td>Month</td><td>Year</td></tr><tr><td>10</td><td>02</td><td>1945</td></tr></table> <i>If exact date is not known, enter best estimate.</i>	Day	Month	Year	10	02	1945	<table border="1"><tr><td>Day</td><td>Month</td><td>Year</td></tr><tr><td>17</td><td></td><td>1</td></tr></table>	Day	Month	Year	17		1
Day	Month	Year											
10	02	1945											
Day	Month	Year											
17		1											

As in the 1986 Census, Question 4 pertained to the sex of respondents. Since the question was simple, no specific instructions were given.

<b>4. SEX</b>	<table border="1"><tr><td>18 <input type="radio"/> Male</td></tr><tr><td>19 <input type="radio"/> Female</td></tr></table>	18 <input type="radio"/> Male	19 <input type="radio"/> Female
18 <input type="radio"/> Male			
19 <input type="radio"/> Female			

Question 5, pertaining to marital status, was substantially different from the last census. In 1986, persons in common-law unions were asked to indicate their marital status as single, divorced, separated or widowed. When the data were edited, answers were recoded and these persons were included in the "Now married (excluding separated)" category. In 1991, the question pertained to legal marital status. The possible responses were similar to those in the 1986 Census, but instructions to respondents in common-law unions were different since a specific question relating to common-law status had been added. Instructions in 1991 stated that persons in common-law unions should choose the category of Question 5 which best described their legal marital status [that is, legally married and separated, divorced, widowed or never married (single)] and mark the appropriate circle. They were also asked to be sure to indicate that they were living with a common-law partner in Question 6.

<b>5. LEGAL MARITAL STATUS</b> <i>Mark one circle only.</i>	<table border="1"><tr><td>20 <input type="radio"/> Legally married (and not separated)</td></tr><tr><td>21 <input type="radio"/> Legally married and separated</td></tr><tr><td>22 <input type="radio"/> Divorced</td></tr><tr><td>23 <input type="radio"/> Widowed</td></tr><tr><td>24 <input type="radio"/> Never married (single)</td></tr></table>	20 <input type="radio"/> Legally married (and not separated)	21 <input type="radio"/> Legally married and separated	22 <input type="radio"/> Divorced	23 <input type="radio"/> Widowed	24 <input type="radio"/> Never married (single)
20 <input type="radio"/> Legally married (and not separated)						
21 <input type="radio"/> Legally married and separated						
22 <input type="radio"/> Divorced						
23 <input type="radio"/> Widowed						
24 <input type="radio"/> Never married (single)						



Question 6, pertaining to common-law unions, was added to the 1991 questionnaire in order to facilitate processing, improve data quality and gain a better understanding of this important change in the lifestyles of Canadians.

6. Is this person currently living with a common-law partner?	25 <input type="radio"/> Yes 26 <input type="radio"/> No
---	---

According to the definition in the Census Guide, a common-law union exists where two people live together as husband and wife, but are not legally married. Respondents were asked to make sure that they had indicated their legal marital status in Question 5.

## IV. Data Assimilation

As the questionnaires were received, the process of assimilating the data involved several stages in order to convert written responses into machine-readable form. This process involved four stages:

- regional office processing;
- direct data entry;
- automated coding;
- head office processing.

A brief description of each stage is provided below.

### 1. Regional office processing (ROP)

Regional office processing consisted of the following elements:

(a) Receipt and preparation of documents

When completed questionnaires reached the regional processing centres, they were logged, counted and prepared for key entry. Preparation involved checking questionnaires against Visitation Records - making sure, for example, that the number of household members on the two documents matched. Legibility checks ensured that the data were ready for computer entry. Finally, all responses concerning relationships between household members (Question 2) were converted to numerical codes.

(b) Reverse record check

A sample of persons was taken from the 1986 Census files and other external sources; 1991 documents were then searched for these same persons. Where a person was found, 1991 characteristics were noted and sent to head office. Where persons were not found, further tracing determined whether they were enumerated elsewhere in Canada or missed altogether. The results of this reverse record check are presented in Section VI.

(c) Coding of economic variables

Supervisors and coding consultants resolved any discrepancies in coding before the questionnaires for an enumeration area proceeded to the next stage. Other sources (city directories, subject-matter officers, and so on) were occasionally consulted.

(d) Processing

Questionnaires were transferred to work units in charge of direct data entry at Revenue Canada, Taxation regional processing offices, before being sent to Statistics Canada in Ottawa.

### 2. Direct data entry (DDE)

Direct entry (key entry) of data from the census of population questionnaires was performed by 1,500 operators, sworn to secrecy under the **Statistics Act**, working for Revenue Canada in seven centres across the country. Data were then transmitted from the regional centres to Ottawa to be stored on tapes.

Regional Taxation Data Centres of Revenue Canada were used to provide office space for temporary staff hired to process and capture census data. Revenue Canada, Taxation data capture operators were also used for subsequent data entry, to be eventually processed and compiled at Statistics Canada.

Production took place during the period from August to December 1991.

The activities that were involved in this stage include:

- receipt and registration of enumeration area boxes from regional processing;
- key entry of census questionnaire data by operators;
- sample verification of the captured data by a different operator, including the correction of flagged errors by the system at operator entry;
- return of questionnaires to enumeration area boxes (in their original order);
- shipping to Ottawa (shipment of data cartridges between Revenue Canada, Taxation head office in Ottawa and Statistics Canada head office, on a daily basis).

### **3. Automated coding**

The automated coding operation converted written responses to questions on mother tongue, home language, knowledge of other languages, registered Indian status, place of birth, ethnic origin, major field of study, religion, and place of residence 1 and 5 years ago, to numerical codes.

For the first time, this coding operation was done using batch processing to automatically match in alphabetical order the captured written responses received from head office processing against an automated reference file/classification structure. This structure contained a series of words or phrases and corresponding numerical codes for each of the above variables.

All responses which could not be coded by the system were coded manually by processing staff and coding consultants using a computer-assisted process. Once all responses were coded, an analysis was conducted for each variable to ensure compliance with rules governing data quality, and then records were forwarded to edit and imputation.

### **4. Head office processing (HOP)**

Head office processing involved a combination of automated and manual operations divided into four major groups.

- Visitation Records and questionnaires for each enumeration area were received, registered and stored at head office. Tapes containing respondent data were copied and loaded onto the HOP database.
- Automated structural edits were carried out at the enumeration area, household and person levels and any inconsistencies such as person count conflicts or household number conflicts were resolved manually.
- Special enumeration questionnaires from Canadians living outside Canada, temporary residents and persons aboard merchant, naval and coast-guard vessels were sent to head office and the data adjusted to include them. In addition, coverage check results of unoccupied dwellings and undercoverage and overcoverage were processed, and adjustments made to the data based on the results of the vacancy check.
- HOP staff was also responsible for producing the preliminary and final population and dwelling counts and for microfilming census questionnaires for archival purposes.

## V. Edit and Imputation

Editing the collected data is one of the most important steps in the development and ultimate dissemination of the 1991 Census. This stage of census operations involves judgment as to the consistency of responses, and if necessary, the rejection of responses that are incompatible with responses given for other variables. This is to be followed by an assessment of the number of missing or invalid responses. Errors may be the result of respondents answering questions incorrectly or incompletely, or they may have been generated during coding or data capture activities. After errors are detected, values for missing or incomplete entries are imputed.

Imputation, which involves the automated assignment of responses to cases which are either invalid or missing, is of fundamental importance in following the edit procedures. The first concern in imputation is to retain as many of the original responses as possible. The imputation process is based on the principle that as much of the original data as possible contained in files rejected during the edit be conserved. Ultimately, the goal is to minimize the necessary changes that follow the data collection and edit procedures.

Imputation may be done using either the "deterministic" or "hot deck" method - both were used in the 1991 Census. "Deterministic" imputation involves correcting errors by inferring the appropriate value on the basis of other answers on the questionnaire. On the other hand, the "hot deck" approach involves selecting a record that has a number of characteristics in common with the record in error, and imputing the missing information from this "donor" record. The age, sex and marital status variables are imputed using the latter approach. Imputation is based upon a consistent record, taking into account certain geographic and auxiliary constraints.

### 1. Operations pertaining to family relationships

Before proceeding to a discussion of the edit and imputation process for age, sex and marital status variables, it is useful to briefly consider prior operations associated with the "DERIVE" program. More specifically, the DERIVE program has been developed to ensure consistency in census information collected on "family relationships."

"DERIVE" program operations are designed to properly designate what has come to be referred to as "the reference person" (i.e. the person who completes the census questionnaire for all members of the household) and correctly identify family members and their relationship to this reference person. Consequently, the manner in which the consistency in such relationships can be established involved explicitly the variables which are the focus of the report. If a response conflicts with other responses on the form with regard to age, sex, marital status and common-law status, the response is necessarily modified to ensure consistency in family relationships. In the present context, this potentially holds repercussions for the marital status and common-law status variables.

The impact of changes made through these operations on the "marital status" and "common-law" variables is shown in Table 5.1.

It seems clear, from this table, that these operations have a negligible effect on the marital status data. In fact, only 0.3% of marital status data is affected (Table 5.1). It should also be mentioned that these changes mostly affect data pertaining to single and married persons.

**Table 5.1 Percentage of Data Modified by the "DERIVE" Operation, Canada and Regions, 1991**

Variable	Canada	East	Quebec	Ontario	West	Outside Canada
	percentage					
Marital status	0.3	0.3	0.4	0.3	0.3	0.6
Common-law status	8.0	6.1	9.0	8.3	7.3	7.7

In 1986, the "DERIVE" operation had a large impact on marital status data since it redesignated persons living in common-law unions as "Now married (excluding separated)". In 1991, the "DERIVE" operation was further modified, such that persons living common-law were no longer redesignated in this manner. Since persons living common-law were asked in the 1991 census to indicate their legal marital status, the "DERIVE" function merely ensures consistency with reported relationship and marital status. For example, where one partner could not be identified from among household members, the "DERIVE" operation assured that the response concerning common-law status did not contradict this fact. Modifications of this nature to the data on common-law unions was considerable, in the order of 8%. This was even higher for the province of Quebec, where 9.0% of cases were affected.

## 2. Editing and imputation software

The CANEDIT automated system was used to edit and impute data for age, sex and marital status. The system was used to correct data for age, sex, marital status and relationship to the reference person. Edits were specified in the form of several conflict rules. A conflict existed, for example, if a respondent's marital status was "legally married (and not separated)", but that person was under 15 years of age. "Hot deck" imputation was used in replacing values that surfaced through these conflicts. This method was relied upon, as it attempts to maintain the correlation of characteristics with minimal change to the data. As an example, if a record indicated that a person was a married woman, but no age was provided, CANEDIT would search for a response that corrects this error without contradicting other information provided. The system would not impute an age of less than 15 since this is a logical impossibility for a married woman. It would search clean records to find a married woman in the same geographical area whose other relevant characteristics were the same, and match her age with the missing value.

## 3. Edit and imputation of responses

The edit rules for the 1991 Census were very similar to those for the previous census. In fact, 19 edit rules were established, some of which applied only to single responses and respondents, while others compared the responses of two different members of the household. Although the complete list of edit rules for the age, sex and marital status variables is included in the Appendix, some examples are presented below to illustrate the general principles and selected characteristics involved.

The most basic edit and imputation rule involves the automatic rejection of any questionnaire in which a response was missing. In Example 1, the questionnaire would be rejected in edit since the decade and year of birth for the son were not given. In the imputation of this missing value, an automated procedure searches through records already processed for a household with similar characteristics, which then serves as a reference record. Correspondingly, the missing data (i.e. the decade and year of birth of Person 3 in this case) are extracted from this file.

Example 1				
Person	Relationship to Person 1	Year of birth	Sex	Marital status
1	-	1965	M	Legally married (and not separated)
2	Spouse	1967	F	Legally married (and not separated)
3	Son	blank	M	Never married (single)
4	Daughter	1990	F	Never married (single)

In general, this matching of similar characteristics involves two types of specifications: stratification rules and auxiliary constraints. The former ensures that the processed records are from similar households, for example, live in the same region (rural or urban), have the same number of members, etc. The auxiliary constraints ensure, in this instance, the matching of data from the reference file relative to sex, relationship to Person 1, place of birth or marital status, depending on the variable to be imputed.

In Example 1, a household is selected with four persons, the third reported being a son. In order to serve as a reference record, the record for this household would have to contain the same information as the household specified in Example 1, that is, the same relationship to Person 1, sex and marital status. The decade and year of birth of the son in the reference file are then assigned to the son in Example 1.

Only those records that have made it through the edit process may serve in the reference files. Data imputed must consequently be errorless (in other words, only valid and consistent responses are acceptable).

In Example 2, either the date of birth of Person 3 or his/her relationship to Person 1 has been incorrectly coded or captured. Census edit rules provide that the decade of birth reported for a son or daughter be at least fifteen years later than that of at least one parent. The questionnaire in Example 2 would therefore be rejected in the edit process.

In order to make the data relating to the household in Example 2 consistent, it is necessary to modify, at the edit and imputation stage, either the son's decade of birth, which conflicts with that reported by the first two persons, or the relationship of Person 3 to Person 1. Either option is acceptable and could be chosen as each requires only one modification. Once a choice was made, the imputation process would be similar to that described for Example 1.

Example 2				
Person	Relationship to Person 1	Year of birth	Sex	Marital status
1	-	1965	M	Legally married (and not separated)
2	Spouse	1967	F	Legally married (and not separated)
3	Son	1970	M	Never married (single)
4	Daughter	1990	F	Never married (single)

The overall impact of using these procedures for missing, invalid or conflicting data is relatively small when considering data on age, sex and marital status. Close to 98% of the data were in no way modified. Cases of conflict requiring a correction to the sex, decade, year and month of birth or marital status accounted for a very small proportion of the rejected records found in the edit. In fact, over 90% of the values imputed involved missing responses. It should be mentioned, however, that the earlier "DERIVE" operation helped to reduce inconsistency for the marital status variable and to eliminate it for the common-law variable.

**Table 5.2 Percentage of Data Modified Due to "Blank", "Invalid" or "Conflict" Responses, Canada and Regions, 1991**

Variable	Canada	East	Quebec	Ontario	West	Outside Canada
percentage						
Decade of birth	1.7	1.1	1.9	2.0	1.4	2.8
Year of birth	1.6	1.0	1.7	1.9	1.3	2.6
Month of birth	1.7	1.0	1.8	2.0	1.4	2.6
Sex	1.9	1.1	1.9	2.4	1.6	2.4
Marital status	2.3	1.4	2.4	2.6	1.9	4.2

In a more specific manner, the percentage of responses modified due to blank, invalid or inconsistent responses, with decade, year, and month of birth, was in the order of 1.7% for the country as a whole, although this percentage was as high as 2.8% for Canadians residing outside of the country. This was also higher in Ontario and Quebec (in the order of 2% for certain variables) while the lowest percentage was in the Atlantic provinces.

The percentage of responses that were changed for the sex variable was slightly higher (1.9%), as associated with a higher number of missing values. The response pattern was also similar at the regional level, with percentages higher for Ontario and residents outside Canada (reaching 2.4%).

With respect to the question pertaining to marital status, 2.3% of responses were missing, invalid or in conflict with other responses provided. Problematic responses from Canadians residing outside Canada were relatively high at 4.2%, compared to 2.3% for Canada as a whole.

In summary, only a small proportion of responses were missing, invalid or in conflict, with missing responses accounting for most of the rejected records found in the edit. Since the number of cases requiring imputation was relatively small, the imputation process had little impact on the distribution of Canada's population by age, sex and marital status.

## VI. Data Evaluation

Once the data collection, capture, edit and imputation operations were completed, the next stage involved evaluating the quality of the data gathered. Two approaches were used to carry out this evaluation. The first consisted of comparing the data on age, sex and marital status and on persons in common-law unions against data from outside sources. At this stage, the evaluation was limited to Canada, the provinces and territories. The second approach involved evaluating the comprehensiveness of the data by means of coverage measurement studies<sup>(1)</sup>.

### 1. Data evaluation process

Throughout the various stages of the census, measures were taken to ensure that results were of superior quality. Rigorous standards of quality control were established for data collection and processing, while a public relations program attempted to minimize non-response. These measures reduced, but could not eliminate, error. Consequently, a data quality measurement program was established to provide users with information on the quality of census data. Two studies were conducted within the framework of this program: one to measure undercoverage, and the other to measure overcoverage. Results from those studies are combined to provide an estimate of net undercoverage. Results with respect to the variables age, sex and marital status are briefly described in this section.

First, however, data on age, sex, marital status, and persons in common-law unions were evaluated using different sources. For comparative purposes, various indicators were calculated based on data from the following sources: vital statistics, demographic estimates as prepared by the Demography Division, selected surveys and previous censuses.

#### 1.1 Evaluation of age data

Age data are derived from the question on date of birth. Consequently, the evaluation begins with data on the month and year of birth<sup>(2)</sup>.

Vital statistics on births during 1979-1988 period were used to calculate the mean distribution of births by month for Canada as a whole, the provinces and territories. A distribution for January 1 to June 3 and June 4 to December 31 was also derived from this data. Accordingly, the percentage of births in each period was 42.5% and 57.5% respectively.

These same distributions were also computed on the basis of census data for Canada, the provinces and territories. They were then compared with the distribution figures based on vital statistics.

Table 6.1 shows only very small discrepancies in birth period distribution for Canada as a whole. The discrepancy of approximately one third of a percentage for each birth period clearly falls within the expected range. Only the distribution for Newfoundland and the Territories are particularly noteworthy in falling outside the expected range (Table 6.2). Inaccuracy in the vital statistics might be responsible for the discrepancies observed in Newfoundland, while small numbers might merely be involved in the Territories.



**Table 6.1 Population Distribution by Month of Birth, Mean for the 1979-1988 Period and Expected Range for Census, Canada, 1991**

Month and period	Mean 1979-1988(1)	Expected range(2) for 1991 Census	Distribution for 1991 Census
		percentage	
January	7.89	7.64 - 8.14	8.14
February	7.59	7.34 - 7.84	7.67
March	8.70	8.45 - 8.95	8.56
April	8.59	8.34 - 8.84	8.56
May	8.86	8.61 - 9.11	8.86
June 1 - 3	0.85	0.60 - 1.10	0.84
From January 1 to June 3	42.49	42.07 - 42.91	42.79
June 4 - 30	7.65	7.40 - 7.90	7.59
July	8.71	8.46 - 8.96	8.56
August	8.51	8.26 - 8.76	8.41
September	8.58	8.33 - 8.83	8.52
October	8.29	8.04 - 8.54	8.31
November	7.81	7.56 - 8.06	7.81
December	7.97	7.72 - 8.22	8.04
From June 4 to December 31	57.51	56.93 - 58.09	57.21
<b>Total</b>	<b>100.0</b>		<b>100.0</b>

(1) Mean births by month, from vital statistics.

(2) Range for individual months is  $\pm 0.25\%$  of mean.Range for birth period is  $\pm 1\%$  of mean.**Table 6.2 Population Distribution by Month of Birth, Canada, Provinces and Territories, 1991**

Province/ territory	January 1 to June 2		June 3 to December 31	
	Expected range for 1991 Census(1)	Distribution for 1991 Census	Expected range for 1991 Census(1)	Distribution for 1991 Census
		percentage		
Canada	42.1 - 42.9	42.8	56.9 - 58.1	57.2
Newfoundland	44.0 - 44.8	40.9	55.0 - 56.2	59.1
Prince Edward Island	42.0 - 42.9	42.5	57.0 - 58.1	57.5
Nova Scotia	42.2 - 43.1	42.5	56.8 - 58.0	57.5
New Brunswick	41.9 - 42.7	42.9	57.1 - 58.3	57.1
Quebec	42.4 - 43.3	43.1	56.6 - 57.7	56.9
Ontario	41.6 - 42.4	42.7	57.4 - 58.6	57.3
Manitoba	42.3 - 43.1	42.7	56.8 - 57.9	57.3
Saskatchewan	42.6 - 43.5	42.8	56.4 - 57.5	57.2
Alberta	42.1 - 42.9	42.9	56.9 - 58.1	57.2
British Columbia	42.0 - 42.8	42.7	57.0 - 58.2	57.3
Yukon Territory	42.8 - 43.8	42.0	56.1 - 57.2	58.1
Northwest Territories	42.7 - 43.5	43.9	56.3 - 57.5	56.1

(1) Expected range based on vital statistics.

The quality of birth year data was also evaluated. In order to do so, the birth year distribution from the 1991 Census was analyzed.

The 1991 population distribution by year of birth is presented in Table 6.3. Overall, this distribution corresponds closely to the pattern of births observed in Canada since the turn of the century. For example, the swelling of birth cohorts following World War II corresponds closely to the increase in fertility and the recovery of births during the "baby boom" period. This was also a period of heavy immigration, which also contributed to an increase in the number of persons reporting a birth during these years.

In addition, the decline in fertility from the middle of the 1960s onward led to a decline in the size of the birth cohorts born between 1965 and 1975. This decline in the size of birth cohorts was sharper in Quebec, while Western Canada experienced a less significant decrease. For this latter region, interprovincial migration has always had an important effect upon its age distribution which at least partially explains why this decline was not as marked in other parts of the country.

**Table 6.3 Population Distribution by Year of Birth(1), Canada and Regions, 1900 to 1991**

Birth year	Canada		East		Quebec		Ontario		West	
	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index
1900	9,960	-	1,895	-	4,160	-	7,575	-	6,330	-
1901	23,365	-	2,100	-	5,055	-	8,920	-	7,290	-
1902	29,110	983.0	2,505	955.3	6,465	987.0	11,100	992.2	9,040	976.8
1903	34,760	988.9	3,050	993.2	7,745	980.4	13,115	991.2	10,850	991.0
1904	40,870	990.9	3,560	995.1	9,325	990.5	15,225	985.7	12,760	996.3
1905	47,640	997.5	4,145	996.0	10,910	988.0	17,790	1,004.0	14,795	997.3
1906	53,850	978.0	4,620	959.7	12,620	986.1	20,010	979.2	16,600	975.5
1907	61,680	986.8	5,435	984.1	14,610	996.4	22,465	972.2	19,165	997.9
1908	71,285	1,004.2	6,305	994.0	16,525	985.7	26,685	1,019.1	21,765	1,003.6
1909	78,045	981.0	7,110	991.2	18,655	987.5	28,570	977.2	23,705	977.5
1910	90,060	1,011.2	8,245	1,014.0	21,425	1,014.1	33,195	1,014.6	27,200	1,004.2
1911	96,705	983.2	8,780	972.7	23,230	992.0	35,270	981.8	29,420	981.2
1912	109,200	1,001.0	10,210	1,021.5	25,795	999.0	39,865	1,000.7	33,335	996.9
1913	117,780	998.4	10,790	999.3	27,995	1,000.8	42,725	993.6	36,270	1,002.0
1914	131,690	1,042.4	11,945	1,038.5	30,660	1,021.9	48,115	1,043.7	40,970	1,058.0
1915	134,470	1,011.5	12,260	1,015.2	32,195	1,006.9	49,015	1,015.7	41,005	1,009.2
1916	138,520	990.0	12,315	965.2	33,365	980.0	50,790	1,003.3	42,045	989.5
1917	142,215	974.9	13,060	979.6	35,655	997.6	50,650	957.5	42,845	975.9
1918	152,715	970.4	14,215	1,004.3	38,360	1,000.4	54,545	945.1	45,595	966.8
1919	161,450	949.5	14,820	982.8	39,130	939.7	59,470	946.3	48,030	951.7
1920	191,970	1,053.6	16,350	1,030.5	45,225	1,014.1	73,095	1,072.4	57,295	1,069.5
1921	201,805	1,044.7	16,950	1,039.2	49,830	1,053.9	76,460	1,043.2	58,565	1,040.6
1922	203,050	994.7	17,005	1,016.5	50,440	998.4	77,225	989.5	58,380	992.2
1923	207,560	988.1	16,425	968.1	51,780	979.3	80,240	997.3	59,115	989.2
1924	216,280	1,007.3	16,910	985.5	55,335	1,015.1	83,185	1,008.0	60,850	1,005.5
1925	221,600	1,010.1	17,545	1,015.0	57,000	1,010.2	85,175	1,010.0	61,880	1,008.8
1926	225,085	1,004.3	17,900	1,020.1	58,015	994.8	86,810	1,011.7	62,365	998.6
1927	226,380	995.9	17,650	994.3	59,975	1,007.8	86,265	994.2	62,485	987.6

Table 6.3 Population Distribution by Year of Birth(1), Canada and Regions, 1900 to 1991

Birth year	Canada		East		Quebec		Ontario		West	
	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index
1928	231,245	996.5	17,725	985.4	61,255	1,001.9	87,600	990.5	64,670	1,002.9
1929	232,205	984.7	17,950	983.0	61,310	977.9	87,990	984.0	64,950	992.6
1930	245,325	1,023.7	18,710	1,004.7	65,145	1,017.8	93,530	1,032.5	67,940	1,022.7
1931	243,955	1,013.2	19,265	1,023.4	65,815	1,023.3	91,745	1,008.0	67,130	1,007.7
1932	245,505	1,013.2	19,470	1,020.8	66,510	1,025.8	92,055	1,006.6	67,470	1,007.7
1933	236,865	978.3	18,725	974.1	62,780	970.3	89,775	984.1	65,590	979.6
1934	239,880	987.7	19,185	989.9	63,925	990.6	90,145	982.5	66,625	991.2
1935	244,345	1,005.0	19,465	999.8	64,495	1,004.4	92,420	1,005.0	67,960	1,007.1
1936	247,780	999.9	20,065	1,006.5	64,930	992.6	94,335	1,006.3	68,450	996.2
1937	246,765	975.8	19,895	970.8	64,940	970.5	93,140	974.6	68,790	984.1
1938	260,240	1,000.9	21,070	1,000.8	68,780	994.3	98,675	1,008.0	71,710	997.7
1939	265,260	989.5	21,965	1,012.0	71,420	991.3	99,255	989.5	72,620	981.1
1940	279,960	997.1	22,270	977.0	75,800	997.1	104,065	994.6	77,825	1,006.6
1941	288,195	982.7	23,325	979.1	79,305	993.5	106,420	978.3	79,145	979.0
1942	310,160	1,013.6	25,340	1,023.2	84,800	1,011.3	114,745	1,015.4	85,280	1,010.7
1943	322,810	1,012.1	26,215	1,005.7	87,815	995.2	119,420	1,020.7	89,355	1,019.6
1944	328,840	970.1	26,675	955.9	91,540	986.4	120,345	963.7	90,355	966.6
1945	344,710	955.8	28,780	960.8	97,725	1,007.0	124,070	930.3	94,130	938.8
1946	388,405	1,028.0	32,520	1,027.4	102,100	1,012.1	145,845	1,044.1	107,935	1,022.1
1947	418,435	1,060.6	35,580	1,067.0	106,045	1,019.0	157,170	1,077.9	119,645	1,074.8
1948	408,700	998.1	34,710	1,000.9	106,980	1,004.0	150,995	995.9	116,015	994.7
1949	412,450	990.6	35,130	997.3	107,505	992.7	150,965	985.1	118,850	993.7
1950	419,440	997.7	35,450	998.2	110,130	1,003.1	153,135	995.9	120,725	995.1
1951	422,855	987.3	35,255	979.4	110,840	993.5	153,990	986.9	122,765	984.7
1952	438,490	998.2	37,035	1,009.0	113,480	992.1	159,760	1,001.7	128,215	996.2
1953	448,150	996.8	37,110	994.7	115,885	992.7	162,360	997.3	132,790	1,000.5
1954	467,525	1,014.9	38,660	1,014.6	121,605	1,019.3	168,220	1,009.2	139,040	1,018.1
1955	470,855	1,000.0	38,485	994.7	121,875	996.8	169,675	997.3	140,825	1,007.6
1956	478,230	998.4	39,220	1,005.0	123,670	992.3	173,385	1,000.3	141,955	999.5
1957	489,460	1,010.2	39,975	1,021.5	128,305	1,018.5	177,020	1,005.5	144,160	1,005.8
1958	488,960	996.0	38,805	986.2	127,665	1,004.3	178,335	991.8	144,155	996.6
1959	494,985	1,001.7	39,180	993.6	128,370	1,007.7	181,845	997.5	145,590	1,004.0
1960	502,990	1,018.4	39,550	1,006.9	127,580	1,010.4	188,495	1,024.8	147,365	1,020.3
1961	494,300	1,001.6	39,650	1,005.7	125,030	998.9	185,815	1,002.9	143,800	1,001.1
1962	488,325	998.6	39,215	996.7	122,685	994.5	185,195	1,000.0	141,205	1,000.9
1963	486,930	1,022.2	39,540	1,019.3	122,140	1,017.8	185,040	1,020.4	140,205	1,029.3
1964	472,435	1,030.3	38,765	1,025.0	119,375	1,034.7	181,380	1,035.6	132,915	1,020.9
1965	439,795	1,003.3	36,795	1,000.3	110,770	1,007.6	169,315	1,010.9	122,915	990.1
1966	405,150	971.7	34,775	976.2	101,870	981.0	154,805	972.3	113,695	961.5

Table 6.3 Population Distribution by Year of Birth(1), Canada and Regions, 1900 to 1991

Birth year	Canada		East		Quebec		Ontario		West	
	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index
1967	387,490	970.3	34,035	977.0	95,505	969.5	146,940	967.1	111,015	973.0
1968	379,780	975.3	33,740	971.4	91,700	967.9	143,640	973.3	110,705	985.2
1969	384,620	1,001.7	34,840	984.4	92,675	1,005.4	144,980	1,001.0	112,130	1,005.0
1970	390,025	1,025.8	36,265	1,003.0	91,940	1,019.2	147,555	1,033.1	114,265	1,029.0
1971	377,990	1,002.8	38,075	1,033.0	89,085	997.3	141,090	1,003.7	109,735	996.0
1972	368,765	987.8	37,875	1,018.5	85,650	965.2	136,860	991.5	108,380	990.9
1973	363,260	981.0	37,245	998.2	87,270	980.1	132,355	977.1	106,385	980.8
1974	366,625	993.9	36,455	988.3	89,750	995.2	132,305	992.0	108,115	996.9
1975	374,765	1,015.9	36,920	1,017.0	93,480	1,017.3	134,640	1,020.5	109,730	1,008.8
1976	371,015	1,003.3	35,945	1,008.6	94,760	1,014.9	130,675	995.6	109,635	1,000.8
1977	368,790	992.0	34,940	993.0	94,175	990.0	129,710	990.7	109,965	994.9
1978	367,820	985.7	33,930	982.0	94,680	985.9	128,900	984.6	110,310	987.9
1979	376,470	1,004.3	34,210	1,005.2	98,540	1,023.8	130,720	994.7	113,005	998.6
1980	381,695	1,013.6	33,735	1,001.2	97,990	1,024.4	134,585	1,017.3	115,390	1,003.9
1981	379,525	1,002.1	33,345	993.2	95,855	1,015.5	133,195	996.1	117,120	1,000.6
1982	377,450	994.0	33,245	999.2	91,220	988.0	134,095	990.0	118,890	1,001.7
1983	378,530	996.5	33,345	1,008.1	88,370	979.7	135,990	995.7	120,825	1,006.9
1984	381,455	1,007.1	32,685	999.9	88,205	1,003.4	139,375	1,012.5	121,185	1,005.5
1985	382,300	1,014.7	32,775	1,018.6	87,330	1,012.5	140,255	1,015.2	121,940	1,014.5
1986	374,140	998.3	31,395	995.2	84,410	987.7	138,530	1,002.1	119,800	1,002.3
1987	367,460	977.5	30,675	981.4	82,940	964.6	136,585	982.1	117,260	980.5
1988	368,595	975.1	30,210	974.6	84,450	964.6	136,480	973.7	117,455	984.7
1989	387,050	-	31,240	-	90,805	-	143,520	-	121,480	-
1990	392,750	-	31,470	-	95,145	-	145,715	-	120,415	-
1991	165,665	-	12,610	-	40,960	-	61,455	-	50,640	-

(1) Does not include Canadians residing outside Canada.

To complete the evaluation of the year of birth data, an index was calculated to measure the regularity of the age distribution. The index was obtained by determining the ratio of the number of births in year  $x$  to the mean number of births in the five-year period centred in year  $x$ . This ratio is then multiplied by 5, and presented as a multiple of 1,000.

$$\text{index} = \frac{\text{births in year } x}{\text{births in years } x - 2, x - 1, x, x + 1 \text{ and } x + 2} \times 5 \times 1,000$$

An index above 1,000 is indicative of a "pull" toward birth year  $x$  in reporting date of birth, while a lower index is indicative of a "push" away from birth year  $x$ . Indexes were calculated for Canada as a whole, the provinces and territories. Based on an earlier evaluation, indexes with values ranging from 975 to 1,025 were considered acceptable.

Mortality has a significant impact on the distribution of births by year. The earlier the year of birth, the more important its role. At the same time, undercoverage appears to have had a greater impact on the number of persons born in the 1960s because of the higher undercoverage rate of the 20-24 and 25-29 age groups.

As illustrated in Table 6.3, the indexes reveal little variation from the acceptable range. Some discrepancies were noted for certain regions (namely in the east) but do not present problems in determining age. It should also be mentioned that discrepancies observed for the birth years 1917 through 1921 correspond exactly with discrepancies observed in the evaluation of the 1986 Census. The birth rate was lower during these years because of the First World War.

An evaluation of age data was also undertaken by using demographic estimates (June 1, 1991)<sup>(3)</sup> as provided by the Demography Division. These estimates constitute an excellent source against which to compare census data, as they incorporate all components affecting the Canadian population and its composition since the last census. Since the quality of these estimates is high, the evaluation of census data by age is limited to a comparison with population estimates. Although estimates are available by province, territory, and census metropolitan area, the present evaluation was limited to Canadian provinces and territories<sup>(4)</sup>.

In order to facilitate data comparison, differences are expressed in percentage. Discrepancies for Canada as a whole are presented in Table 6.4, while those for the provinces and territories are presented in Table A1 in the Appendix. Acceptable discrepancies are established at  $\pm 5\%$  for populations greater than 100,000 and  $\pm 10\%$  for populations between 10,000 and 100,000. Discrepancies for smaller populations are evaluated individually.

**Table 6.4 Discrepancy Between Enumerated Population and Estimated Population, by Age Group and Sex, Canada, 1991**

Age group	1991 Census			Estimates			Discrepancy (%)		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
<b>TOTAL</b>	<b>27,296,860</b>	<b>13,454,580</b>	<b>13,842,280</b>	<b>26,991,600</b>	<b>13,302,400</b>	<b>13,689,200</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>
0-4	1,906,495	975,760	930,735	1,936,100	990,700	945,400	-1.5	-1.5	-1.5
5-9	1,908,045	978,220	929,825	1,866,400	956,600	909,700	2.2	2.3	2.2
10-14	1,878,015	962,925	915,090	1,850,800	949,300	901,500	1.5	1.4	1.5
15-19	1,868,635	958,405	910,230	1,839,400	943,400	895,900	1.6	1.6	1.6
20-24	1,961,870	985,220	976,650	1,991,800	1,014,900	976,800	-1.5	-2.9	0.0
25-29	2,375,535	1,182,575	1,192,960	2,341,100	1,172,300	1,168,800	1.5	0.9	2.1
30-34	2,491,045	1,237,685	1,253,360	2,429,200	1,207,400	1,221,800	2.5	2.5	2.6
35-39	2,284,475	1,133,665	1,150,810	2,245,400	1,112,400	1,133,000	1.7	1.9	1.6
40-44	2,086,900	1,042,185	1,044,715	2,054,800	1,023,300	1,031,500	1.6	1.8	1.3
45-49	1,640,780	824,200	816,580	1,617,600	810,200	807,500	1.4	1.7	1.1
50-54	1,325,460	663,285	662,175	1,309,200	652,600	656,600	1.2	1.6	0.9
55-59	1,222,925	608,085	614,840	1,208,500	598,500	610,100	1.2	1.6	0.8
60-64	1,176,710	571,945	604,765	1,161,200	561,700	599,400	1.3	1.8	0.9
65-69	1,073,170	492,500	580,670	1,054,100	482,200	571,800	1.8	2.1	1.5
70-74	821,895	358,950	462,945	815,500	353,800	461,700	0.8	1.5	0.3
75-79	614,775	252,530	362,245	612,800	250,200	362,600	0.3	0.9	-0.1
80-84	376,785	140,130	236,655	377,300	139,400	237,900	-0.1	0.5	-0.5
85-89	189,485	61,250	128,235	190,800	61,200	129,600	-0.7	0.1	-1.1
90+	93,845	25,050	68,795	89,700	22,200	67,500	4.6	12.9	1.9

As illustrated in this comparison, there are few discrepancies in the data from these two sources. Other than for the two territories, no discrepancy outside the accepted range is observed. However, this comparison hints at an undercoverage of young adult males, although the discrepancy remains within the accepted range. Overcoverage, in the order of 13%, was also noted with respect to males over 90 years of age (indicative of a problem with the quality of data for the oldest age groups). Correspondingly, a more extensive evaluation would appear to be required with the aged.

## 1.2 Evaluation of sex data

Calculating sex ratios by five-year age groups for Canada, the provinces and territories, facilitates analysis of the population distribution by sex. The sex ratio is defined as the ratio of males to females, expressed as a multiple of 1,000. By examining the pattern of sex ratios in the 1976, 1981 and 1986 Censuses as well as 1991 demographic estimates, expected discrepancies can be established for the 1991 Census data. Acceptable discrepancies have been established at  $\pm 15$  for the age groups 0-4 to 55-59, and  $\pm 25$  for older groups. Sex ratios calculated from census data can correspondingly be evaluated on the basis of these discrepancies.

By and large, ratios remained within the acceptable limits (Table 6.5) with only a few exceptions. Ratios for the 20-24 age group were lower than the acceptable limits for Canada as a whole and for almost every province, (while this was also true for some of the provinces with the 25-29 age group). This is likely due to the higher rate of undercoverage associated with men in these age groups. Young adults in the 20-24 age group are generally more mobile than the population in general, while this is particularly true for young men in this age group.

It should be mentioned that these discrepancies are very similar to those observed for the 1986 Census, suggesting that the problem of undercoverage for men in the 20-24 age group has not improved (or at least not in comparison with the level of undercoverage observed with respect to young women).

Moreover, a number of sex ratios depart slightly from the acceptable range for Prince Edward Island, the Yukon Territory and the Northwest Territories. While the small numbers involved likely explain such discrepancies, the quality of sex data for these regions can nonetheless be said to be satisfactory.

Table 6.5 Sex Ratios by Age Group, Canada, 1976, 1981, 1986 and 1991

Age group	Census			1991 estimates(1)	Expected 1991 Census range	1991 Census
	1976	1981	1986			
Total	992	983	974	972	957 - 987	972
0-4	1,054	1,052	1,051	1,048	1,033 - 1,063	1,048
5-9	1,050	1,054	1,052	1,052	1,037 - 1,067	1,052
10-14	1,048	1,052	1,054	1,053	1,038 - 1,068	1,052
15-19	1,041	1,043	1,049	1,053	1,038 - 1,068	1,053
20-24	998	1,004	1,009	1,039	1,024 - 1,054	1,009
25-29	1,008	992	990	1,003	988 - 1,018	991
30-34	1,022	1,004	984	988	973 - 1,003	987
35-39	1,021	1,018	996	982	967 - 997	985
40-44	1,030	1,017	1,009	992	977 - 1,007	998
45-49	1,013	1,023	1,006	1,003	988 - 1,018	1,009
50-54	954	1,000	1,005	994	979 - 1,009	1,002
55-59	934	929	974	981	966 - 996	989
60-64	928	894	892	937	912 - 962	946
65-69	885	861	834	843	818 - 868	848
70-74	826	799	783	766	741 - 791	775
75+	653	623	604	593	568 - 618	602

(1) According to demographic estimates, Demography Division

**Table 6.6 Comparison of 1991 Census Sex Ratios with Expected 1991 Census Values Range, by Age Group and Provinces(1), 1991(2)**

Age group	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
0-4										
5-9										
10-14										
15-19	+									
20-24		-	-	-	-	-	-	-	-	-
25-29	-	-	-	-		-		-		
30-34		-								+
35-39										
40-44		+						+		
45-49			+					+		+
50-54										
55-59							+			
60-64		+								
65-69		+								
70-74										
75+		+								

(1) The Yukon Territory and Northwest Territories are excluded because the small figures involved make comparisons difficult.

(2) (+) Over expected range.

(-) Under expected range.

### 1.3 Evaluation of marital status data

Marital status data were evaluated through three separate analyses. The first involved comparing population distribution by legal marital status (for five-year age groups, sex and province) with a corresponding distribution from the General Social Survey (GSS). This survey does not include data for Canada's territories. The GSS is the only source available for the purpose of comparing data on legal marital status. The second evaluation involved comparing marital status data with data derived from a historical series of previous censuses (1976, 1981, 1986), examining the degree of change by age group, sex, province and territories. While acknowledging the difficulties in drawing comparisons over time with cross-sectional data, a cohort analysis was enacted, in following the marital experiences of specific age cohorts over time. Finally, the third evaluation involved comparing marital status data with demographic estimates as provided by the Demography Division, again working toward the same level of disaggregation.

Since the GSS collected data on common-law unions in early 1990, the data are not strictly comparable with the census, held on June 4, 1991. Nevertheless, given the fact that the GSS is the only survey source that provides a distribution by legal marital status and that data on legal marital status was first gathered for the 1991 Census, it appears useful to compare the two sources.

The comparison of 1991 Census and GSS data in Table 6.7 (and Table A2 of the Appendix for the provinces and territories) reveals few differences in distribution by legal marital status. For Canada as a whole, the discrepancy is less than 1 percentage point for men and 1.6 percentage points for married and widowed women. Larger discrepancies were noted, however, for specific age groups (and for a specific province, i.e. P.E.I.). This is likely due to GSS sampling errors, as the survey data show considerable variation by age group.

**Table 6.7 Discrepancy Between Population Distribution from the GSS(1) and from the Census, by Age Group, Sex and Legal Marital Status, Canada, 1991**

Age group	Single	Married	Married / separated	Widowed	Divorced	Single	Married	Married / separated	Widowed	Divorced
Men						Women				
in percentage point										
Total	-0.72	0.79	0.15	-0.23	0.00	-0.71	1.58	0.10	-1.61	0.63
15-19	0.57	-0.44	-0.05	-0.03	-0.04	0.27	-0.25	0.10	-0.06	-0.06
20-24	0.49	-0.02	-0.47	0.08	-0.08	-0.23	0.54	0.29	-0.10	-0.50
25-29	-6.07	6.28	0.54	-0.06	-0.70	-4.10	3.14	-0.06	-0.16	1.17
30-34	1.42	-0.92	-0.25	-0.13	-0.11	-2.01	2.04	-0.55	-0.07	0.58
35-39	-4.30	3.08	0.31	-0.08	1.00	-1.18	-0.49	0.97	0.52	0.18
40-44	-2.18	2.23	0.04	-0.02	-0.07	-1.56	3.54	0.57	-0.60	-1.94
45-49	-2.18	0.27	2.21	-0.18	-0.11	-2.97	-3.10	0.01	-0.25	6.31
50-54	0.14	-0.11	0.77	-0.70	-0.09	-1.76	2.41	-0.64	-1.86	1.86
55-59	-3.44	0.05	2.70	-0.20	0.88	-2.12	4.87	0.04	-0.71	-2.08
60-64	-1.12	-1.69	-1.44	3.88	0.38	-2.52	3.18	0.58	-3.49	2.26
65-69	-2.86	5.56	-1.24	-1.25	-0.22	-1.26	-2.39	-0.03	3.57	0.11
70-74	-3.59	0.51	-1.13	1.65	2.55	-0.28	4.44	-0.33	-4.33	0.50
75-79	-1.29	3.12	-0.24	-1.00	-0.59	1.23	-0.81	-0.38	-0.59	0.55

(1) 1990 distribution figures.

Growth rates of the population by age group, sex and marital status were computed with census data for the 1976-1981, 1981-1986 and 1986-1991 periods. A cohort analysis was enacted since it is easier to interpret change in marital status within cohorts than to compare change across different cohorts. These rates as presented in Table 6.8 permit an analysis of population distribution by marital status (for selected age cohorts and by sex).

As suggested in Table 6.8, the percentage of persons with single status decreases sharply to the age of 35. For example, this is reflected in the fact that the percentage of women with single status in the 25-29 age group in 1991 was 47.5% less than was the case for this same cohort 5 years earlier (i.e. persons aged 20-24 years in 1986). Table 6.8 also suggests that the percentage of persons with single status continues to decline after age 35, but in a less dramatic manner (since the loss of never married status is most obviously irreversible).

As the number of single persons within a cohort decreases, the number of married persons increase. As the number of young married adults rises, the divorce rate simultaneously gains in importance. In the older age groups, especially for women, the number of married persons correspondingly serves to increase the ranks of the divorced, separated and widowed.

Not surprisingly, the widowed population takes on greater importance for older age groups. The number of widowed persons has continued to increase, as a greater number of persons become widowed than leave widowhood (by either remarrying or entering a common-law union).



**Table 6.8 Population Change of Age Group (j) in Census Year (m), Compared with Age Group (j-5) in Census Year (m-5), by Sex and Marital Status, Canada, 1976-1981, 1981-1986 and 1986-1991**

Age cohort (1991)	Total		Single		Married		Widowed		Divorced	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
percentage										
<b>25-29</b>										
1976-1981	1.5	1.9	-0.1	-4.9	-	-	-	-	-	-
1981-1986	-4.3	-1.0	-23.0	-36.2	-	-	-	-	-	-
1986-1991	4.5	6.3	-39.7	-47.5	169.0	84.0	32.1	77.2	524.4	335.1
<b>30-34</b>										
1976-1981	-1.8	1.8	-27.9	-43.3	-	-	-	-	-	-
1981-1986	-0.8	0.6	-45.4	-49.4	110.9	49.7	43.3	95.4	382.7	246.8
1986-1991	6.2	6.5	-34.9	-32.3	30.7	17.2	96.4	70.8	140.9	89.4
<b>35-39</b>										
1976-1981	1.7	2.4	-51.9	-54.9	110.7	46.0	39.1	100.3	564.0	320.8
1981-1986	0.0	0.8	-38.8	-32.7	16.3	6.3	82.2	66.8	94.4	78.9
1986-1991	4.6	4.4	-20.8	-15.9	8.6	4.9	73.7	58.2	62.1	43.8
<b>40-44</b>										
1976-1981	2.1	2.5	-43.4	-34.3	16.9	6.7	52.8	66.4	138.3	102.2
1981-1986	-1.0	-0.2	-24.3	-17.5	1.3	-1.2	75.3	61.2	51.9	48.7
1986-1991	3.1	2.9	-11.4	-6.5	2.9	0.8	66.4	57.1	40.0	32.5
<b>45-49</b>										
1976-1981	0.0	0.4	-28.5	-19.3	2.4	-0.6	61.9	64.2	79.6	64.8
1981-1986	-1.4	-0.5	-12.8	-8.8	-2.2	-3.2	71.3	60.4	44.9	38.7
1986-1991	1.6	1.6	-7.0	-3.6	0.7	-1.3	59.8	56.0	26.0	23.8
<b>50-54</b>										
1976-1981	0.5	0.9	-13.9	-8.9	0.0	-1.6	60.3	66.1	72.7	53.6
1981-1986	-2.2	-1.1	-9.6	-5.6	-3.4	-4.3	64.3	58.6	33.3	27.8
1986-1991	0.5	0.9	-5.9	-2.1	-0.4	-2.8	54.0	56.9	16.4	18.3
<b>55-59</b>										
1976-1981	-1.4	-0.6	-10.7	-6.9	-2.6	-3.9	62.5	62.4	62.6	43.4
1981-1986	-2.9	-1.2	-7.9	-4.5	-4.4	-5.3	58.4	58.2	26.8	21.3
1986-1991	-1.3	0.3	-7.6	-1.9	-2.1	-5.2	48.1	54.8	6.9	14.7
<b>60-64</b>										
1976-1981	-1.4	-0.1	-7.2	-2.9	-3.0	-4.8	60.1	64.1	53.4	36.3
1981-1986	-4.5	-2.0	-9.6	-4.8	-5.9	-7.8	49.5	52.7	15.9	15.3
1986-1991	-3.7	-0.8	-8.9	-1.9	-4.8	-9.1	45.0	48.4	0.0	9.8
<b>65-69</b>										
1976-1981	-4.6	-2.1	-9.9	-5.2	-6.2	-8.6	50.3	56.1	38.7	25.5
1981-1986	-6.7	-2.7	-12.4	-4.7	-8.2	-11.5	47.2	46.3	4.8	9.2
1986-1991	-7.2	-2.4	-13.1	-3.4	-9.0	-14.3	39.7	39.3	-5.8	3.8

**Table 6.8 Population Change of Age Group (j) in Census Year (m), Compared with Age Group (j-5) in Census Year (m-5), by Sex and Marital Status, Canada, 1976-1981, 1981-1986 and 1986-1991**

Age cohort (1991)	Total		Single		Married		Widowed		Divorced	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
percentage										
<b>70-74</b>										
1976-1981	-6.1	-1.9	-11.0	-3.9	-8.0	-11.5	46.4	47.6	27.2	19.6
1981-1986	-10.3	-3.8	-16.4	-5.3	-12.4	-16.6	38.8	37.4	-5.0	2.0
1986-1991	-13.4	-6.9	-19.7	-7.7	-16.2	-23.1	30.7	25.5	-17.1	-8.1
<b>75-79</b>										
1976-1981	-10.4	-3.4	-15.4	-5.1	-12.8	-17.2	36.7	38.4	13.0	9.4
1981-1986	-16.9	-8.8	-22.9	-9.7	6.8	13.3	2.8	4.7	35.0	52.4
1986-1991	-22.2	-12.5	-28.1	-13.0	-44.8	-56.8	43.5	30.9	-55.1	-51.2
<b>80-84</b>										
1976-1981	-16.9	-7.9	-22.5	-8.8	-20.3	-26.6	26.6	24.3	-2.3	-3.6
1981-1986	-25.4	-14.7	-31.1	-15.3	-29.9	-36.8	12.3	8.0	-26.9	-20.9
1986-1991	-33.2	-21.2	-37.8	-21.4	-39.4	-47.2	-2.4	-5.6	-37.5	-28.6
<b>85-89</b>										
1976-1981	-25.2	-13.7	-30.3	-14.3	-30.3	-37.9	12.0	9.6	-14.4	-16.7
1981-1986	-36.1	-23.1	-40.4	-23.4	-42.6	-49.7	-6.7	-8.5	-37.3	-27.7
1986-1991	-46.9	-33.9	-49.4	-34.0	-54.8	-60.9	-25.5	-25.7	-53.3	-40.9
<b>90+</b>										
1976-1981	-36.9	-23.8	-41.0	-24.7	-44.1	-51.9	-8.6	-9.1	-33.1	-32.0
1981-1986	-48.9	-36.0	-51.7	-36.5	-57.1	-64.3	-29.4	-28.2	-49.9	-38.8
1986-1991	-48.4	-33.6	-41.3	-29.4	-59.8	-61.2	-34.6	-30.5	-41.1	-23.2

This brief analysis reveals that patterns within cohorts (for each category of marital status) seem to correspond with patterns already observed. In this context, the data are consistent with expectations, without revealing any suspicious patterns.

To complete this evaluation of marital status data, demographic estimates are relied upon. Ratios of the census counts to the estimated population by age group, sex and marital status were calculated (as mentioned earlier, estimates do not include non-permanent residents, even though they were included in census data). As illustrated in Table 6.9, data from the two sources correspond fairly closely (with the exception of the following categories: "Married" in the 15-24 age group, and "Widowed" or "Divorced" in the younger age groups).

Estimates of the married population under the age of 25 (which include persons living in common-law unions) seem much too low. In addition, estimates of the number of separated persons, also included in this age category, also appear to be rather low. With regard to the discrepancies in the data on young divorced and widowed adults, small numbers make further comparisons difficult.

**Table 6.9 Ratio of Enumerated Population to Estimated Population, by Age Group, Sex and Marital Status, Canada, 1991**

Age group	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
	Men				Women			
Total	0.97	1.02	0.96	0.76	0.97	1.00	1.00	0.86
15-19	1.01	5.46	23.08	9.13	0.98	3.10	9.82	3.79
20-24	0.89	1.57	0.90	0.68	0.87	1.33	0.79	0.68
25-29	0.91	1.11	0.81	0.56	0.97	1.03	0.80	0.66
30-34	1.06	1.01	0.97	0.61	1.09	0.99	0.92	0.75
35-39	1.10	1.00	0.95	0.71	1.06	0.98	0.93	0.83
40-44	1.09	1.00	0.96	0.77	1.05	0.98	0.97	0.88
45-49	1.08	1.00	0.95	0.78	1.04	0.98	0.98	0.90
50-54	1.06	1.00	0.92	0.81	1.03	0.98	0.98	0.93
55-59	1.06	1.00	0.92	0.86	1.03	0.98	0.98	0.96
60-64	1.07	1.00	0.96	0.89	1.03	0.98	0.99	0.97
65-69	1.07	1.00	1.00	0.94	1.04	0.98	1.02	0.97
70-74	1.06	1.00	0.96	0.91	1.02	0.97	1.01	0.91
75-79	1.06	0.99	0.95	0.91	1.01	0.96	1.00	0.89

**1.4 Evaluation of data on number of persons living in common-law unions**

GSS data and demographic estimates on the number of families in Canada can be used to evaluate data on persons living in common-law unions (by age, sex and marital status). These alternate data sources are to our knowledge, the only available sources of recent data on the distribution of the population living in common-law unions. Irrespective of this fact, this distribution can also be evaluated on the basis of changes witnessed with respect to the number of common-law unions in Canada, in drawing systematic comparisons with previous censuses.

According to the census, 1,451,905 persons were living in common-law unions in 1991. This represents an increase of 49% over 1986, when 973,880 persons were enumerated (Table 6.10). This sizeable increase is higher than that observed between 1981 and 1986 (37%).

**Table 6.10 Number and Rate of Increase in Number of Persons Living in Common-law Unions, Canada, Provinces and Territories, 1981, 1986 and 1991**

Province/territory	Number			Rate (%)	
	1981	1986	1991	1981-1986	1986-1991
Canada	713,215	973,880	1,451,905	37	49
Newfoundland	5,605	10,075	19,925	80	98
Prince Edward Island	1,615	2,615	4,055	62	55
Nova Scotia	18,445	26,405	40,245	43	52
New Brunswick	12,710	19,205	31,780	51	65
Quebec	241,775	377,320	613,815	56	63
Ontario	203,730	269,440	364,310	32	35
Manitoba	23,750	30,610	42,625	29	39
Saskatchewan	19,280	27,475	35,500	43	29
Alberta	80,455	90,300	119,900	12	33
British Columbia	102,060	115,290	171,260	13	49
Yukon Territory	1,740	1,965	2,830	13	44
Northwest Territories	2,060	3,175	5,655	54	78

The number of persons living in common-law unions increased most rapidly in Newfoundland, where an increase of 98% was recorded. Similarly, in the Northwest Territories, this increase was in the order of 78%. Further increases, at about 60%, were also recorded for New Brunswick and Quebec. This growth was not as high in Ontario and the Prairies, where the percentage increase hovered at about 30%.

In drawing comparisons across age groups, it would appear that the pattern observed for 1986-1991 is very similar to that recorded for the 1981-1986 period. The most rapid increase was among adults over 35 years of age (Table 6.11). For example, the number of persons in the 45-49 age group doubled between 1986 and 1991. A large increase was also noted in the 50-54 age group, whereby the number of persons living in common-law unions increased by 78% for men and 68% for women.

A comparison of the percentage increase in the number of persons living in common-law unions over the last two intercensal periods reveals that although a sharp increase appeared over the 1986-1991 period, this is not entirely out of line with a high rate of increase witnessed in 1981-1986. A noteworthy exception to the general pattern as documented was witnessed with respect to the 15-19 age group, which experienced a reduction in the incidence of common-law relationships over the 1981-1986 period, only to experience an increase in their likelihood over the 1986-1991 period. The percentage increase over the latter period (41% for young men and 21% for young women) appears to be a realistic portrayal of recent changes.

**Table 6.11 Distribution and Rate of Increase in Number of Persons Living in Common-law Unions, by Age Group and Sex, Canada, 1981, 1986 and 1991**

Age group	Number						Rate (%)			
	1981		1986		1991		1981-1986		1986-1991	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
<b>Total</b>	<b>356,610</b>	<b>356,610</b>	<b>486,945</b>	<b>486,945</b>	<b>725,945</b>	<b>725,945</b>	<b>37</b>	<b>37</b>	<b>49</b>	<b>49</b>
15-19	8,340	32,450	4,655	21,535	6,570	26,135	-44	-34	41	21
20-24	83,080	109,625	81,630	123,500	89,195	138,485	-2	13	9	12
25-29	88,120	77,675	122,670	116,085	163,840	169,060	39	49	34	46
30-34	61,160	47,865	90,335	76,730	140,410	130,900	48	60	55	71
35-39	38,715	29,325	65,010	52,670	101,305	91,980	68	80	56	75
40-44	24,230	18,715	42,395	33,950	76,735	65,490	75	81	81	93
45-49	17,630	13,275	26,525	21,110	53,570	42,130	50	59	102	100
50-54	13,315	10,290	19,215	14,430	34,155	24,310	44	40	78	68
55-59	9,080	7,450	13,710	10,410	24,020	14,680	51	40	75	41
60-64	5,740	4,770	9,245	7,625	16,330	9,710	61	60	77	27
65+	7200	5,170	11,555	8,895	19,815	13,065	60	72	71	47

The second evaluation involved comparing census data with GSS data. Correspondingly, a ratio was calculated (by age group and sex for Canada as a whole, and the provinces<sup>(5)</sup>), that being the ratio of the population living in common-law unions according to the 1991 Census to the population living in common-law unions according to the GSS. Although the GSS was conducted in early 1990 (more than a full year before the 1991 Census), this data was used since it was one of the most recent data sources available on the incidence of common-law unions in Canada.

In reading Table 6.12, GSS sampling errors make it difficult to achieve decisive conclusions when drawing comparisons by age group. Nevertheless, with the exception of Newfoundland, census figures are lower than those from the survey. According to the census, there were 1,451,890 persons living in common-law unions, while the GSS placed the figure at 1,589,160. In other words, in comparison with the survey, the census appears to have underestimated the number of persons living in common-law unions by 137.3 thousand, or 8.7%. Although small numbers often make comparison difficult, it is possible that young adults, in particular, were underestimated in the census. The Atlantic provinces, and Newfoundland in particular, were the only provinces for which census figures were significantly higher than survey figures.

**Table 6.12 Ratio of Population in Common-law Unions from the Census to GSS, by Age Group and Sex, Canada and Provinces, 1991**

Age group and sex	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
<b>Both sexes</b>											
15+	0.91	2.12	1.07	0.94	1.21	0.89	0.92	0.79	0.78	0.84	1.00
15-19	0.77	-	-	0.26	1.40	0.77	0.63	1.63	0.51	0.62	3.25
20-24	0.81	0.98	1.32	0.65	0.92	0.80	0.80	0.47	0.70	0.97	0.90
25-29	0.91	2.05	1.11	1.14	2.58	0.79	1.03	0.87	0.86	1.25	0.84
30-34	0.80	3.29	0.74	0.81	1.04	0.75	0.85	1.37	0.71	0.66	0.85
35-39	0.97	3.66	0.96	1.22	0.82	1.09	0.75	0.60	0.75	1.47	1.01
40-44	1.11	-	-	0.91	3.54	1.21	1.21	0.71	0.56	0.52	1.47
45-49	0.89	-	1.07	-	0.70	0.82	1.13	0.91	1.13	0.38	1.18
50-54	1.46	1.08	0.61	-	-	1.22	1.15	1.03	-	-	3.04
55-59	1.57	-	0.21	1.14	1.04	2.55	1.10	-	0.73	0.43	0.85
60-64	0.77	-	-	-	0.36	1.80	0.48	-	1.76	-	1.19
65-69	1.04	-	-	0.49	0.84	1.68	2.01	0.58	-	0.41	0.90
70-74	1.40	-	-	0.59	-	-	-	-	-	-	0.80
75-79	1.45	-	-	-	0.38	0.63	1.59	-	-	-	1.59
<b>Men</b>											
15+	0.90	2.27	1.17	1.08	0.99	0.86	0.89	0.81	0.83	0.92	0.99
15-19	0.77	-	-	0.09	-	0.78	0.91	-	-	0.47	-
20-24	0.72	0.79	1.40	0.64	0.54	0.77	0.81	0.33	0.51	0.91	0.67
25-29	0.98	2.57	1.56	0.97	2.13	0.84	1.01	1.09	1.11	2.43	0.83
30-34	0.76	3.49	0.63	1.02	1.80	0.69	0.86	1.49	0.42	0.65	0.85
35-39	0.93	-	-	2.42	0.73	1.01	0.86	0.44	0.72	0.94	0.80
40-44	1.13	-	-	-	1.94	1.27	1.05	1.36	1.13	0.36	2.55
45-49	0.90	-	0.65	-	0.40	0.72	0.75	-	-	2.20	1.51
50-54	1.13	0.65	-	-	-	0.90	0.93	0.61	-	-	1.78
55-59	1.46	-	0.14	0.67	-	1.59	1.23	-	-	0.70	3.12
60-64	0.80	-	-	-	0.22	1.13	0.37	-	-	-	-
65-69	1.05	-	-	0.30	0.47	2.23	1.19	-	-	0.56	0.54
70-74	2.81	-	-	-	-	-	-	-	-	-	0.45
75-79	0.88	-	-	-	0.26	0.59	0.98	-	-	-	0.91
<b>Women</b>											
15+	0.92	1.98	0.98	0.83	1.55	0.91	0.95	0.77	0.74	0.77	1.02
15-19	0.76	-	-	0.50	1.13	0.77	0.58	1.28	0.40	0.68	2.61
20-24	0.87	1.14	1.26	0.66	1.67	0.82	0.79	0.67	0.96	1.01	1.16
25-29	0.86	1.68	0.86	1.39	3.28	0.75	1.04	0.72	0.69	0.83	0.85
30-34	0.84	3.07	0.88	0.66	0.71	0.82	0.83	1.25	3.62	0.68	0.85
35-39	1.02	1.67	0.45	0.79	0.95	1.19	0.66	0.99	0.77	4.05	1.41
40-44	1.08	-	-	0.43	-	1.14	1.47	0.46	0.35	1.06	0.99
45-49	0.88	-	-	-	-	0.98	2.96	0.40	0.52	0.19	0.93
50-54	2.47	-	0.26	-	-	2.53	1.68	-	-	-	-
55-59	1.80	-	-	-	0.40	-	0.95	-	0.27	0.26	0.38
60-64	0.72	-	-	-	-	-	1.03	-	0.63	-	0.45
65-69	1.04	-	-	-	-	1.20	-	0.24	-	0.29	-
70-74	0.82	-	-	0.25	-	-	-	-	-	-	-
75-79	-	-	-	-	-	0.70	-	-	-	-	-

The last evaluation involved comparing results with family number estimates obtained from the Demography Division. These estimates were arrived at by using 1986 Census results, adding or deleting all events which altered the number of families as required (marriages, divorces, deaths, migrations, common-law unions). These estimates can therefore be used to derive data on persons living in common-law unions.

**Table 6.13 Number of Persons in Common-law Unions from the Census and Demographic Estimates, by Age Group and Sex, Canada, 1991**

Age group and sex	Census	Estimates	Ratio (Census/estimates)
<b>Both sexes</b>			
15+	1,451,890	1,252,000	1.16
15-19	32,705	17,500	1.87
20-24	227,685	196,900	1.16
25-29	332,900	295,100	1.13
30-34	271,305	240,400	1.13
35-39	193,290	166,700	1.16
40-44	142,225	126,500	1.12
45-49	95,695	77,400	1.24
50-54	58,470	46,500	1.26
55-59	38,700	31,300	1.24
60-64	26,045	22,500	1.16
65+	32,885	31,200	1.06
<b>Men</b>			
15+	725,945	626,000	1.16
15-19	6,570	2,200	3.05
20-24	89,195	73,500	1.21
25-29	163,840	148,400	1.10
30-34	140,410	127,000	1.11
35-39	101,305	89,800	1.13
40-44	76,735	68,700	1.12
45-49	53,570	42,300	1.27
50-54	34,155	26,400	1.29
55-59	24,020	17,800	1.35
60-64	16,330	12,500	1.31
65+	19,815	17,200	1.15
<b>Women</b>			
15+	725,945	626,000	1.16
15-19	26,135	15,300	1.70
20-24	138,485	123,300	1.12
25-29	169,060	146,700	1.15
30-34	130,900	113,400	1.15
35-39	91,980	76,900	1.20
40-44	65,490	57,800	1.13
45-49	42,130	35,100	1.20
50-54	24,310	20,100	1.21
55-59	14,680	13,500	1.09
60-64	9,710	10,000	0.97
65+	13,065	14,000	0.94

Table 6.13 provides a comparison between census data and estimates with regard to persons in common-law unions. Compared to the estimates, the census appears to have overestimated the number of common-law unions by 16%. This is even higher in examining the 15-19 age group, especially with respect to the men in this age group. In inter-

pretation, however, it remains possible that the estimates, extrapolated from trends observed over the 1981-1986 period, are much too low. In a similar manner, census figures for men over the age of 45 were significantly higher than those in the estimates.

In sum, many census figures appear higher than the estimates that were established on the basis of patterns from the 1981-1986 period. It seems reasonable to expect that they not reflect the rapid increase in common-law unions as experienced over the 1986-1991 period. However, census data correspond more closely with data from the GSS which apart from sampling problems, constitutes a reliable source of data.

## **2. 1991 Census data quality studies**

Although the census attempts to enumerate every person residing in Canada on Census Day, results are never perfect. In order to determine the extent of census coverage errors, data quality studies are conducted. The reverse record check is used to measure undercoverage, that is, the number of persons missed in the census. The overcoverage study estimates the number of persons enumerated who should not have been enumerated and the number of persons enumerated more than once. The results of these two studies are combined to produce an estimate of net undercoverage, that is, undercoverage minus overcoverage.

A technical report on coverage in the 1991 Census is to be prepared, but since coverage errors are one of the main sources of errors in the age, sex and marital status variables, the main results are presented here.

### **2.1 Methodology for data quality studies**

#### **2.1.1 Reverse record check**

Using sources not related to the 1991 Census, a sample of persons who should have been enumerated was taken from the following groups:

- persons enumerated in one of the ten provinces in the 1986 Census;
- persons born in the 1986-1991 intercensal period;
- persons who immigrated to Canada during the intercensal period;
- persons found not to have been enumerated in one of the ten provinces in the previous census;
- holders of student or employment authorizations or Minister's permits (or extensions to such permits), and refugee claimants;
- persons in the Yukon and Northwest Territories health insurance files.

Before the census, the most recent available address was ascertained for each person in the sample. Then, census documents were checked to determine whether or not the people in the sample were enumerated at those addresses. Persons not found were the subject of a field follow-up.

Tracing and searches made it possible to classify the selected persons according to the following categories: enumerated, missed, deceased, emigrated or residing abroad, and not found. The results were then weighted to produce estimates of the number of persons missed.

#### **2.1.2 Overcoverage study**

This study estimated the number of persons overenumerated in the 1991 Census, either because they were not part of the population covered by the census, or because they were enumerated more than once.

The study can be divided into four distinct components. First, samples were selected from records enumerated in the 1991 Census, among private households, institutional collective dwellings (hospitals, prisons, and so on), and non-institutional collective dwellings (hotels, residences, and so on). These households and dwellings were contacted in order to determine whether or not the people in these households or dwellings were part of the population covered and to obtain any address or addresses where these people might also have been enumerated. A check was then done to determine whether or not the persons in question had been included in the census documents for the new address(es) obtained.

The last component involved an automated search of the census database in order to find "neighbouring" households containing persons with the same demographic characteristics (age and sex). A manual check of documents was then done for a subsample of matching households to determine whether the same persons had been enumerated in two households.

The results of all four components, weighted on the basis of the size of the population, were combined in order to obtain estimates of overcoverage.

## 2.2 Study results

Based on these studies, a net undercoverage rate of 3.21% was estimated for Canada as a whole (Table 6.14). However, undercoverage varies substantially depending on the age group. Age groups with higher propensities to mobility were also those with higher undercoverage rates. For example, the undercoverage rate for the 20-24 age group was higher than the rate for the total population (7.46%). The 25-34 age group also had a high undercoverage rate (5.67%). Net undercoverage in these age groups accounted for nearly 50% of total undercoverage.

The pattern of undercoverage by age is similar for both sexes, but the estimate of net undercoverage shows that the rate was higher for males than females, with rates of 3.73% and 2.71% respectively.

The studies revealed that undercoverage rates were higher for single and divorced persons than for persons in the other marital status categories. The rates for single persons aged 15 years and over were 7.42% for men and 5.33% for women. Among the divorced population, males were much less likely to be enumerated than women, with an undercoverage rate of 7.69%, compared to 2.04% for women (Table 6.15).

**Table 6.14 Estimated Net Undercoverage Rates in 1991 Census, by Age Group and sex, Canada, 1991(1)**

Age group	Both sexes		Men		Women	
	Rate	Standard error	Rate	Standard error	Rate	Standard error
	percentage					
Total	3.21	0.14	3.73	0.17	2.71	0.19
0-4	3.29	0.51	2.47	0.61	4.13	0.78
5-14	2.19	0.29	2.03	0.36	2.37	0.40
15-19	3.37	0.47	3.23	0.68	3.52	0.60
20-24	7.46	0.59	8.29	0.87	6.61	0.77
25-34	5.67	0.34	7.39	0.57	3.92	0.36
35-44	2.69	0.32	3.61	0.44	1.75	0.36
45-54	1.46	0.29	1.63	0.46	1.29	0.43
55-64	1.48	0.28	1.69	0.46	1.28	0.34
65+	1.24	0.30	1.17	0.50	1.29	0.38

(1) Preliminary estimates.



**Table 6.15 Estimated Net Undercoverage Rates in 1991 Census, by Legal Marital Status and Sex, Canada, 1991(1)**

Legal marital status	Both sexes		Men		Women	
	Rate	Standard error	Rate	Standard error	Rate	Standard error
	percentage					
Total	3.21	0.14	3.73	0.17	2.71	0.19
Married or separated	1.57	0.12	1.78	0.20	1.37	0.17
Divorced	4.57	0.68	7.69	1.12	2.04	0.82
Widowed	2.74	0.48	4.13	1.30	2.44	0.50
Never married (single)	4.71	0.25	5.14	0.32	4.22	0.32
Under 15 years of age	2.56	0.26	2.17	0.31	2.97	0.38
15 years of age and over	6.47	0.37	7.42	0.46	5.33	0.51

(1) Preliminary estimates.

Moreover, the evaluation studies relating to net undercoverage indicate that, as was the case in 1986, undercoverage in Ontario in 1991 was slightly higher than the mean for the country. However, results by age, sex and marital status for the provinces and territories have very high levels of sampling error. It is therefore not possible to determine to what extent the undercoverage pattern for these variables differs regionally.

### 3. Summary of 1991 Census results

Section VI has provided users with an explanation of the stages involved in the evaluation of data on age, sex, marital status and common-law status. To complete this evaluation, a brief demographic profile of the Canadian population based on 1991 Census results is presented.

Between 1986 and 1991, Canada's population increased by nearly two million (7.9%), from 25.3 million to 27.3 million. This involved the first increase in the intercensal rate of population growth since 1951-1956. Reasons for this increase include a large growth in the number of immigrants, the inclusion of non-permanent residents in the 1991 Census for the first time and a small increase in fertility.

The greatest population growth was observed in British Columbia (13.8%), Ontario (10.8%) and Alberta (7.6%), which has been favoured by migratory exchanges. As illustrated in Table 6.16, the population of the Yukon Territory and the Northwest Territories also increased significantly (18.3% and 10.4% respectively), as associated with a higher level of fertility in relation to the provinces.

Canada's population continues to age, a trend first observed in the early 1970s. Although the number of persons under 15 years of age increased from 5.5 million to 5.7 million between 1981 and 1991, its proportion in terms of total population dropped from 22.5% to 20.9% (Table 6.17).

The population in older age groups grew faster than the population as a whole. The number of persons 65 years of age and older grew from 2.4 million to 3.2 million between 1981 and 1991, while their proportion increased from 9.7% to 11.6%. The number of persons 75 years of age and over also increased significantly: from 883,000 to 1,275,000 (or by 44.4%). Similarly, the number of persons 85 years of age and over grew rapidly, from 194,000 in 1981 to 283,000 in 1991 (i.e. an increase of 45.9%).

The ageing of the population is to a large extent due to the drop in births first recorded in the mid-sixties. Increases in life expectancy are less important to this ageing process.

**Table 6.16 Population and Growth Rates, Canada, Provinces and Territories, 1986 and 1991**

Province/territory	Population		Rate
	1986	1991	1986-1991
	in thousands		percentage
Canada	25,309	27,297	7.9
Newfoundland	568	568	0.0
Prince Edward Island	127	130	2.5
Nova Scotia	873	900	3.1
New Brunswick	709	724	2.0
Quebec	6,532	6,896	5.6
Ontario	9,102	10,085	10.8
Manitoba	1,063	1,092	2.7
Saskatchewan	1,010	989	-2.1
Alberta	2,366	2,546	7.6
British Columbia	2,883	3,282	13.8
Yukon Territory	24	28	18.3
Northwest Territories	52	58	10.4

#### 6.17 Population Distribution by Major Age Group, Canada, 1971, 1981 and 1991

Age group	1971	1981	1991	1971	1981	1991
	in thousands			percentage		
Total population	21,568	24,343	27,297	100.0	100.0	100.0
0-14	6,381	5,481	5,693	29.6	22.5	20.9
15-64	13,443	16,501	18,434	62.3	67.8	67.5
65+	1,744	2,361	3,170	8.1	9.7	11.6
75+	667	883	1,275	3.1	3.6	4.7
85+	137	194	283	0.6	0.8	1.0

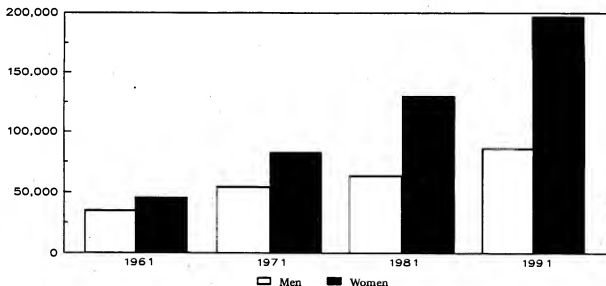
With Canada's population steadily ageing, changes are also observed in this country's median age. As shown in Table 6.18, Canada recorded its highest median age ever in 1991. Half of all Canadians were over 33.5 years of age in 1991. The median age was 29.6 in 1981.

Populations of some provinces are ageing faster than others. British Columbia had the highest median age (34.7 years), followed by Quebec (34.2 years) and Ontario (33.6 years). The lowest median ages were in the Northwest Territories (24.8 years), Newfoundland (30.8 years) and the Yukon Territory (31.0 years).

**Table 6.18 Median Age of Population, Canada, Provinces and Territories, 1976, 1981, 1986 and 1991**

Province/territory	1976	1981	1986	1991
Canada	27.8	29.6	31.6	33.5
Newfoundland	22.6	25.2	27.9	30.8
Prince Edward Island	26.6	28.8	30.6	32.8
Nova Scotia	27.1	29.3	31.2	33.4
New Brunswick	25.7	28.1	30.5	33.2
Quebec	27.7	29.7	32.0	34.2
Ontario	28.6	30.6	32.3	33.6
Manitoba	28.0	29.9	31.4	33.0
Saskatchewan	27.6	28.7	30.1	32.6
Alberta	26.1	26.9	29.2	31.3
British Columbia	29.1	30.9	33.1	34.7
Yukon Territory	24.9	26.6	28.9	31.0
Northwest Territories	20.6	22.0	23.7	24.8

Women consistently outnumbered men among persons aged 65 and over. The ratio of 138 women to every 100 men in this age group did not change between 1986 and 1991. Among the population 85 years of age and over, women continued to outnumber men at least 2 to 1 (Figure 2.1).

**Figure 2.1 Population 85 Years of Age and Over, Canada, 1961 to 1991**

In turning to Canada's population under 24 years of age, there has been somewhat of a reversal in previous trends over recent years. The 0-4 age group increased by 5.3% between 1986 and 1991 to 1.9 million (Table 6.19). After declining over several intercensal periods, the population aged 5 to 14 years increased by 5.7% between 1986 and 1991 to 3.8 million. The young population between the ages of 15 and 24 continued to decline, while the decline between 1986 and 1991 was less than that recorded over the previous intercensal period (8.3% versus 10.3%).

The number of persons between the ages of 25 and 44 grew from 8.2 million to 9.2 million between 1986 and 1991 (an increase of 13.1%). This group includes the baby-boom generation, born in the years following the Second World War. As for the population between the ages of 45 and 64, it grew from 4.9 million in 1986 to 5.4 million in 1991 (an increase of 10.1%).

**Table 6.19 Population and Growth Rates, by Age Group, Canada, 1981, 1986 and 1991**

Age group	Number			Rate	
	1981	1986	1991	1986	1991
	in thousands			percentage	
<b>Total</b>	<b>24,343</b>	<b>25,309</b>	<b>27,297</b>	<b>4.0</b>	<b>7.9</b>
0-4	1,783	1,810	1,907	1.5	5.3
5-14	3,698	3,582	3,786	-3.1	5.7
15-24	4,659	4,178	3,831	-10.3	-8.3
25-44	7,184	8,168	9,238	13.7	13.1
45-64	4,658	4,874	5,366	4.6	10.1
65+	2,361	2,698	3,170	14.3	17.5

The proportion of young adults remaining single has increased. Nearly 65% of women between 20 and 24 years of age were single in 1991, compared to 60% in 1986 (Table 6.20). The proportion of men between 20 and 24 years of age who had never married also increased (79% to 82%). Similar patterns were observed for men and women in the 25-29 and 30-34 age groups.

The proportion of divorced persons (excluding those who have remarried or entered a common-law union) increased from 3.5% in 1986 to 4.2% in 1991. This represented a growth of the number of divorced persons of 32%. This increase was slightly lower, however, than that recorded between 1981 and 1986, when the number of divorced persons rose by 38%.

**Figure 2.2 Population Distribution by Age and Sex, Canada, 1991**

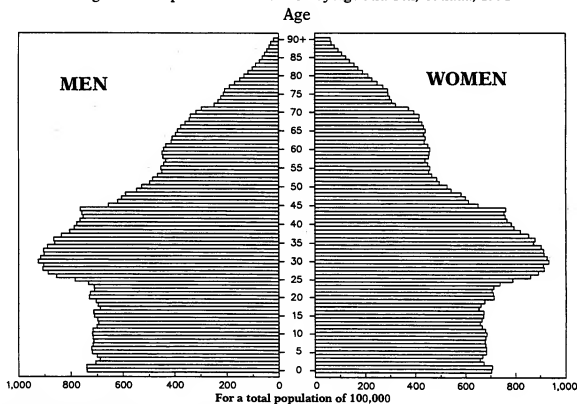


Table 6.20 Distribution of Population 15 Years of Age and Over, by Marital Status, Age Group and Sex, Canada, 1986 and 1991

Age group and sex	1986						1991					
	Total	Single	Married	Separated	Widowed	Divorced percentage	Total	Single	Married	Separated	Widowed	Divorced
<b>Men</b>												
Total	100.0	30.7	62.0	2.3	2.2	2.8	100.0	29.8	62.6	2.0	2.1	3.4
15-19	100.0	98.7	1.1	0.1	0.0	0.0	100.0	98.7	1.1	0.1	0.0	0.0
20-24	100.0	79.2	20.0	0.6	0.0	0.2	100.0	81.6	17.7	0.4	0.0	0.2
25-29	100.0	39.6	56.9	2.1	0.1	1.3	100.0	45.7	51.5	1.5	0.0	1.3
30-34	100.0	19.6	74.2	3.0	0.1	3.1	100.0	24.2	70.2	2.4	0.1	3.1
35-39	100.0	11.4	80.6	3.3	0.2	4.4	100.0	14.8	77.3	2.9	0.2	4.8
40-44	100.0	8.3	82.7	3.5	0.4	5.2	100.0	9.8	80.8	3.1	0.3	5.9
45-49	100.0	7.2	83.4	3.5	0.7	5.3	100.0	7.6	82.4	3.0	0.6	6.4
50-54	100.0	7.1	83.2	3.2	1.4	5.1	100.0	6.7	83.3	2.8	1.1	6.1
55-59	100.0	7.4	82.5	3.0	2.5	4.6	100.0	6.6	83.3	2.5	2.0	5.5
60-64	100.0	7.4	82.1	2.7	4.1	3.7	100.0	7.0	82.1	2.4	3.7	4.7
65-69	100.0	7.0	81.1	2.4	6.5	2.9	100.0	6.9	80.9	2.2	6.2	3.8
70-74	100.0	7.4	77.7	2.2	10.3	2.3	100.0	6.5	78.8	2.0	9.8	2.8
75-79	100.0	7.8	72.0	2.1	16.3	1.8	100.0	6.8	73.8	1.9	15.3	2.2
80-84	100.0	8.6	62.8	1.8	25.3	1.4	100.0	7.3	65.4	1.9	23.8	1.7
85+	100.0	8.6	46.0	1.5	42.9	0.9	100.0	8.7	49.1	1.8	39.2	1.2
<b>Women</b>												
Total	100.0	23.9	58.9	2.9	10.2	4.1	100.0	23.2	59.2	2.6	10.1	4.9
15-19	100.0	95.3	4.4	0.1	0.1	0.0	100.0	95.6	4.2	0.1	0.1	0.0
20-24	100.0	60.2	37.6	1.5	0.1	0.6	100.0	64.6	33.6	1.2	0.1	0.5
25-29	100.0	25.7	68.0	3.4	0.2	2.7	100.0	29.7	65.0	2.7	0.2	2.4
30-34	100.0	13.3	76.8	4.1	0.5	5.2	100.0	16.3	75.1	3.5	0.4	4.7
35-39	100.0	8.6	79.0	4.4	0.9	7.0	100.0	10.7	77.5	3.8	0.7	7.2
40-44	100.0	6.7	79.1	4.5	1.8	7.9	100.0	7.9	77.8	3.9	1.4	9.0
45-49	100.0	5.8	79.1	4.0	3.5	7.5	100.0	6.4	77.5	3.7	2.8	9.6
50-54	100.0	5.6	77.6	3.6	6.6	6.7	100.0	5.6	76.8	3.3	5.5	8.8
55-59	100.0	5.9	73.6	3.1	11.8	5.6	100.0	5.5	73.8	2.9	10.1	7.6
60-64	100.0	6.2	67.4	2.5	19.6	4.4	100.0	5.8	67.8	2.5	17.7	6.7
65-69	100.0	7.0	57.4	2.2	30.1	3.3	100.0	6.1	59.2	2.1	27.9	4.7
70-74	100.0	8.4	45.1	1.7	42.5	2.3	100.0	7.0	47.4	1.8	40.6	3.2
75-79	100.0	9.6	31.8	1.3	55.8	1.6	100.0	8.4	34.0	1.3	54.1	2.2
80-84	100.0	10.2	19.6	0.8	68.4	1.0	100.0	9.6	21.2	0.9	66.9	1.4
85+	100.0	10.3	8.1	0.4	80.7	0.5	100.0	10.4	9.4	0.6	78.8	0.8

The 1991 Census results also reveal that 1.5 million Canadians were living in common-law unions. This represents an increase of nearly 50% over 1986. The number of persons in this group had increased by 37% between 1981 and 1986.

This propensity to live in common-law unions is primarily a characteristic of younger adults. In fact, 60% of persons living in common-law unions were under 35 years of age, with a very large proportion concentrated in the 25-29 age group (23%) (Table 6.21). Most persons living with a common-law partner were single (64%), followed by persons who had previously experienced a divorce (26%), a separation (7%) or a death of a spouse (3%) (Table 6.22).

**Table 6.21 Distribution of Persons Living in Common-law Unions, by Age Group and Sex, Canada, 1991**

Age group	Number			Percentage		
	Total	Men	Women	Total	Men	Women
<b>Total</b>	<b>1,451,905</b>	<b>725,955</b>	<b>725,950</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
15-19	32,705	6,570	26,135	2.3	0.9	3.6
20-24	227,685	89,200	138,485	15.7	12.3	19.1
25-29	332,900	163,840	169,060	22.9	22.6	23.3
30-34	271,305	140,410	130,900	18.7	19.3	18.0
35-39	193,290	101,310	91,985	13.3	14.0	12.7
40-44	142,225	76,740	65,490	9.8	10.6	9.0
45-49	95,695	53,570	42,130	6.6	7.4	5.8
50-54	58,470	34,155	24,310	4.0	4.7	3.3
55-59	38,700	24,020	14,680	2.7	3.3	2.0
60-64	26,045	16,330	9,715	1.8	2.2	1.3
65+	32,885	19,820	13,065	2.3	2.7	1.8

**Table 6.22 Distribution of Persons Living in Common-law Unions, by Marital Status and Sex, Canada, 1991**

Marital status	Number			Percentage		
	Total	Men	Women	Total	Men	Women
<b>Total</b>	<b>1,451,895</b>	<b>725,950</b>	<b>725,945</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Single	923,400	457,185	466,215	63.6	63.0	64.2
Separated	102,430	57,260	45,170	7.1	7.9	6.2
Widowed	49,610	17,480	32,130	3.4	2.4	4.4
Divorced	376,455	194,025	182,430	25.9	26.7	25.1

## VII. Historical Comparability

Changes in various census operations and especially in the wording of questions may affect the historical comparability of data.

Generally speaking, data on age, sex and marital status from the 1991 Census are comparable with data from previous censuses. However, slight changes were made to the wording on the 1991 Census questionnaires (as was the case with previous censuses) and to the instructions to respondents on marital status and common-law status. These changes are described below. In addition, certain changes to the 1991 Census coverage, such as the inclusion of non-permanent residents, may affect the patterns observed on sex, marital status and common-law status.

### 1. Age

Up to and including 1966, census questionnaires asked respondents to give their age as of their last birthday. Since 1971, respondents have been asked to give their date of birth, and if the exact date of birth is not known, to give an estimate. It has been established that a question on the date of birth, rather than age, yields more accurate responses.

In 1961, data published for single years of age were graduated and smoothed within each five-year age group to counteract the "pull" toward rounded numbers, that is, the tendency of respondents to "round off" their age. In 1966 and 1971, this was not done, and the published tables represent the data as reported.

In 1976 and 1971, respondents were asked to indicate their birth date as corresponding to one of two broad categories, that is, January to May or June to December. In subsequent censuses, respondents were asked to give their exact date of birth by entering the day, month and year. This latter change did not affect age data.

### 2. Marital status

The different categories of marital status in the 1991 Census were defined in Section II. Changes have been made to these categories and to instructions to respondents in previous censuses, affecting the historical comparability of data.

The most significant change to this question was made in the 1991 Census. In contrast to previous censuses, respondents were asked to indicate their legal marital status. This led to problems in comparing data relating to persons in common-law unions with that from other censuses since persons in common-law unions were included in the "Now married (excluding separated)" category in the 1981 and 1986 censuses.

The main advantage to the change in 1991 is the improved quality of data on the number of persons in common-law unions. This also allows for data on the legal marital status of persons living in common-law unions.

It is possible, however, to attempt to maintain the historical comparability of data on marital status by using a derived variable: historical marital status. This variable is obtained by including persons living in common-law unions, regardless of their marital status, in the "Legally married (and not separated)" category (in the same way as in previous censuses).

Changes made to the wording of this question (along with the corresponding instructions given to persons in common-law unions in censuses prior to 1991) may have affected the historical comparability of marital status data. These changes can be further discussed below.

In 1966 and earlier, there were only four categories under marital status: "Single", "Married", "Divorced" and "Widowed". Separated persons were classified as "Married". Since 1971, separated persons have been included in the "Separated" category ("Legally married and separated" in 1991). Problems with historical comparability therefore seem quite obvious prior to 1971.

**Table 7.1 Marital Status Categories in Census Questionnaires, 1961 to 1991**

1991	1986 and 1981	1976 and 1971	1966 and 1961
Legally married (and not separated)	Now married (excluding separated)	Now married	Married (including separated)
Legally married and separated	Separated	Separated	-
Divorced	Divorced	Divorced	Divorced
Widowed	Widowed	Widowed	Widowed
Never married (single)	Never married (single)	Never married (single)	Never married (single)

In 1981, the census questionnaire contained specific instructions to respondents in common-law unions on how to respond to the question on marital status. Respondents were asked to mark the "Now married (excluding separated)" box. This procedure, however, led to some confusion in distinguishing legal marriage from common-law unions. Moreover, a separated or divorced person currently in a common-law type of relationship met both the common-law criterion (in other words, classified as "Now married (excluding separated)") and the "Separated" or "Divorced" criterion.

In 1986, irrespective of whether or not a respondent was living in a common-law union, persons were asked to mark either "Separated", "Divorced", "Widowed" or "Never married (single)" on the marital status question. Even though some respondents living in common-law unions erroneously marked "Now married (excluding separated)", this method moved beyond much of the ambiguity which occurred in 1981 (Peters, 1987). On the other hand, this procedure did not fully reflect the respondents' marital status at the time of the census. Instructing common-law respondents to answer in this fashion had the effect of masking an important fact about their conjugal status, particularly among that segment of the population which identified itself as living "alone" ("Separated", "Divorced", "Widowed" or "Never married (single)"). A significant proportion were, in reality, living in couples.

**Table 7.2 Instructions to Respondents Living in Common-law Unions Regarding their Reported Marital Status, 1971 to 1991**

Census	Instructions
1991	If this person is living in a common-law relationship, choose the category in Question 5 which best describes this person's legal marital status.
1986	Persons in a common-law type of relationship should mark one of the boxes "Separated", "Divorced", "Widowed" or "Never married (single)".
1981	Couples living in a common-law type of arrangement are considered as "Now married (excluding separated)", regardless of their legal marital status.
1976	"Now married" includes persons living in a common-law type of relationship.
1971	Persons living in a common-law union should mark "Now married".

### 3. Common-law unions

In the 1981 and 1986 Censuses, data on the number of persons living in common-law unions were derived from the question on the relationship between the reference person and other household members. In the 1991 Census, a question relating specifically to common-law status was introduced. Respondents were asked to answer yes or no to a question asking whether they were currently living with a common-law partner. Data on the number of persons living in common-law unions were derived from responses to this question and the question on the relationship between the reference person and other household members. It should be noted that the retrieval data base contains no direct variable for this question. Retrievals are made in the same way as in 1986.



As indicated in previous sections, comparisons with GSS data would seem to indicate that the 1991 Census data on common-law status is relatively accurate as a result of the introduction of this question. Furthermore, a comparison in the incidence of common-law unions relative to previous censuses, suggests that many common-law unions went previously unreported in 1981 and 1986.

#### **4. Non-permanent residents**

The 1991 Census of population was the first census to include both permanent and non-permanent residents of Canada. Non-permanent residents include persons who hold student or employment authorizations or a Minister's permit, and refugee claimants.

Previous censuses enumerated only permanent residents of Canada (the only exception to this was in 1941). Non-permanent residents were considered foreign residents and were not enumerated.

Total population counts as well as the distribution by age, sex and marital status will be affected by the change in the 1991 Census universe. Until immigration data are released, it will not be possible to know the extent to which differences in counts are due to the inclusion of non-permanent residents or other factors.

According to information gathered from administrative data sources, this segment of the population is relatively young since a large proportion of non-permanent residents are young adults. Their distribution by marital status is also different from that for the Canadian population as a whole. Because of the large number of young adults in this group, the proportion of single persons is high. These considerations suggest that the population distribution by age, sex and marital status will be affected by the inclusion of non-permanent residents, especially in large urban centres where there are considerable concentrations of non-permanent residents, (such as major metropolitan areas in Ontario, Quebec and British Columbia).

#### **5. Incompletely enumerated Indian reserves and settlements**

In the 1986 and 1991 Censuses, enumeration was not permitted on some Indian reserves and settlements, was interrupted before it could be completed on others, or was enumerated yet with an inadequate level of quality.

Data for 1991 are therefore not available for incompletely enumerated Indian reserves and settlements, with tabulations excluding this data. Explanatory notes accompany data for geographic areas which encompass one or more of these reserves and/or settlements. Because of the missing data, users are cautioned that for the affected areas, selected comparisons (e.g. of growth rates by age group and marital status between 1986 and 1991) are not exact. While for larger geographic areas (Canada, provinces, census metropolitan areas and census agglomerations), the impact of this missing data is very small, it can be significant for smaller areas (where the Indian reserves and/or settlements can account for a high proportion of the population).

A list of these reserves and settlements along with population counts (where available) are provided in the appropriate census products.

## VIII. Products and Services

This section describes the different 1991 Census products and services which provide data on age, sex, marital status and common-law status. Users of census data have very different requirements in terms of the subjects covered, geographical breakdowns and media used (that is, paper, magnetic tape, diskette and CD-ROM products). The development of various products made it possible to ensure that users' most common needs were taken into account in designing products and services. A wide variety of publications and machine-readable files are therefore available, and the needs of many users are met through special tabulations.

Products and services are divided into five categories: data products, analytical products, reference products, tabulation services and workshops and seminars.

### Data products

#### 1. The Nation series

These publications contain various tables on the population by age, sex and marital status for Canada, the provinces and territories and the census metropolitan areas. Data by age group for previous censuses are also included. In addition, data on persons living in common-law unions are presented by age group, sex and legal marital status for Canada, the provinces and territories and the census metropolitan areas.

Age, sex and marital status (Cat. No. 93-310).

#### 2. Dimensions series

This series presents statistical information on selected themes of considerable public interest. The tables in these publications include several population characteristics associated with these themes. Historical trends from 1971 to 1991 are shown, for Canada, the provinces and territories. Titles relating to the age, sex and marital status variables are:

- Population Growth and Distribution, 1971-1991 (Cat. No. 94-302);
- Women in Canada, 1971-1991 (Cat. No. 94-303);
- Children and Youth in Canada, 1971-1991 (Cat. No. 94-304);
- Canada's Seniors, 1971-1991 (Cat. No. 94-305).

For these products, selected subprovincial geographical detail not provided in the printed product will be available in an electronic format.

#### 3. Basic Summary Tabulations - 100% Data

Basic Summary Tabulations contain data on the population and on persons living in common-law unions by age, sex and legal marital status for Canada, the provinces and territories, census metropolitan areas, census agglomerations, federal electoral districts, enumeration areas and census divisions and subdivisions. Data are on magnetic tape.

#### 4. Area Profile series

This series gives a statistical overview or profile of geographic areas. A wide range of census variables are covered. Part A of the series contains data on age, sex and marital status.

Data in this series are available for the following geographic areas: federal electoral districts (FEDs), census metropolitan areas and census agglomerations (CMAs and CAs), urban and rural areas, census divisions and subdivisions (CDs and CSDs), census tracts (CTs), enumeration areas (EAs) and urban forward sortation areas (FSAs).

This series is also available on compact disc read-only memory (CD-ROM).

## **Analytical products**

### **1. Focus on Canada series**

This series provides analytical, non-technical studies, with a large number of tables and charts which illustrate social, economic and demographic characteristics of the Canadian population. Four of these publications contain analysis of demographic variables.

### **2. Census Highlights**

This series provides the media with articles of general interest on current social issues. Results of the 1991 Census are illustrated through short articles of a non-technical nature. These articles include diagrams, charts and tables. Twelve Census Highlights deal with selected demographic topics.

## **Reference products**

### **1. 1991 Census Dictionary (Cat. No. 92-301E)**

Provides detailed information on all census concepts, variables and geographic terms. For the first time, the dictionary is also available on diskette.

### **2. 1991 Census Catalogue (Cat. No. 92-302E)**

Gives a full description of products and services available, including information on release dates, prices, media, table titles and catalogue numbers.

### **3. 1991 Census Handbook (Cat. No. 92-305E)**

Provides a non-technical overview of the census. It describes the data collection and processing activities.

### **4. Census Tabulation Guide**

Provides detail on the content and levels of geography of all available standard tabulations. It is available only on IBM compatible personal computer diskettes that operate on MS DOS.

## **Tabulation services**

Tabulation services provide products and services designed to meet users' needs in a more detailed or specific form than is available from standard products. The flexibility built into these services permit many demanding and complex data requests. Clients can therefore obtain products aimed at meeting specific data needs.

The services offer varying degrees of flexibility in terms of content, geographic level and medium.

## **Workshops and seminars**

Workshops and seminars are offered to provide new and current census data users with relevant information and to assist them in maximizing the value of census data to meet their needs.

## IX. Conclusion

As the data collection and processing operations were completed, the edit and imputation process served to identify invalid, missing or conflicting responses. It has been established that close to 98% of the age, sex and marital status data have been in no way modified. Invalid or conflicting responses accounted for only a very small proportion of rejected cases disclosed through the edit procedure. More than 90% of all values imputed involved missing entries. The "DERIVE" operation has also determined that 8% of the data collected on the number of persons living in common-law unions was inconsistent with responses to the question on the relationship between household members.

Data on year and month of birth, age, sex, marital status and the number of persons living in common-law unions have been compared with data from other sources. By and large, the comparisons revealed few differences between census data and the other sources consulted. The minor discrepancies noted could be explained by either errors inherent in the demographic estimates (as for example, when particularly small numbers are involved) or by survey sampling errors. Although the census reported a slightly lower number of persons living in common-law unions than was the case with the GSS, this count was much higher than that obtained from demographic estimates. The latter, which extrapolated from trends recorded in previous censuses, likely underestimates the growth in the number of common-law unions that occurred between 1986 and 1991.

The second part of this report's data evaluation involved a study of the coverage of age, sex and marital status data. Based on the reverse record check (RRC) which indicates the undercoverage rate and an accompanying study of over-coverage, a net undercoverage rate of 3.21% has been established for Canada as a whole. Although the pattern of undercoverage by age was similar for men and women, the undercoverage study indicated a higher undercoverage rate for men. Persons between the ages of 15 and 34 were also more likely to have been missed relative to the population as a whole. More specifically, undercoverage in these age groups accounted for nearly 50% of all persons that were erroneously missed in the 1991 Census. Moreover, these studies revealed that the undercoverage rate was higher for single and divorced persons than for Canadians in the other marital status categories.

The evaluation concluded with a brief description of 1991 Census results with the variables in question. Highlights included an increase of nearly 8% for the population as a whole between 1986 and 1991. Canada's population has increased to 27.3 million.

Canada's population has also continued to age. The percentage of the population under 15 years dropped from 23% to 21% between 1981 and 1991, while the proportion aged 65 and over increased rapidly from 9.7% to 11.6% (up to 3.2 million in 1991). The number of persons 75 years of age and over and 85 years of age and over also increased very rapidly, both in the order of 69%. In 1991, Canada recorded its highest median age ever - 33.5 years.

Ageing was more rapid in some provinces. The median age was 34.7 in British Columbia, 34.2 in Quebec, and 33.6 years in Ontario.

Women continue to outnumber men in the population aged 65 and over. Among the population 85 years of age and over, women outnumbered men by at least 2 to 1.

After declining over several intercensal periods, the population aged 5 to 14 increased by 5.7% between 1986 and 1991. The population between the ages of 15 and 24 continued to decline, but the decline between 1986 and 1991 was less than previously recorded.

The number of persons aged 25 to 44 ("baby-boomers") grew by 13.1%, while the population between 45 and 64 increased by 10.1%.

The proportion of young adults remaining single increased. The number of divorced persons increased by 31.7%, a smaller increase than recorded for the 1981-1986 period (38.1%).

According to the 1991 Census, 1.5 million Canadians were living in common-law unions, having climbed by 49.1% over 1986. Over 60% of these persons were under the age of 35. With respect to the legal marital status of these persons, 64% of those living in common-law unions were single, while 26% were divorced.

## Endnotes

1. Coverage errors, non-response errors, response errors and processing errors may also affect the quality of age, sex, and marital status data. A description of these errors is provided in Statistics Canada. Age, sex and marital status, Ottawa: Supply and Services Canada, 1991. 1991 Census of Canada. No. 93-310 in catalogue (pp. 217-219).
2. Data by day of birth were not subject to any particular evaluation since they have little impact on determination of age.
3. Population estimates available at the time of the data evaluation did not include non-permanent residents.
4. Although the evaluation was done by single year of age, the presentation here is limited to five-year groups.
5. Survey results are not available for the Territories.
6. A change in instructions in 1911 and 1921 resulted in "separated" persons being reported as "divorced".

## Appendix

### 1991 edit rules and auxiliary constraints relating to age, sex, marital status and common-law status

The edit rules set out the conditions whereby a questionnaire is rejected. When a questionnaire is rejected, imputation becomes necessary. In 1991, edit failure relating to age, sex, marital status and common-law status occurred under the following conditions:

#### a) Within-person edit rules

Edit failure occurred if:

- (1) any of the pertinent variables (sex, decade, year or month of birth, marital status) were blank;
- (2) any of the pertinent variables (sex, decade, year or month of birth, marital status) were invalid (invalid value);
- (3) a person coded as spouse was also reported as not being "Legally married (and not separated)";
- (4) a person whose marital status was reported as "Never married (single)" was also coded as a father, mother, father-in-law, mother-in-law, son-in-law or daughter-in-law;
- (5) a person reported as having been born after June 3, 1976, (i.e. as being younger than 15 years of age) was also reported as having a relationship to Person 1 which implied being an adult (e.g., mother-in-law);
- (6) a person reported as having been born after June 3, 1976 was also reported as other than "Never married (single)";
- (7) Person 1 was reported as having been born after June 3, 1976;
- (8) a person was reported as having been born after June 3, 1991;
- (9) a person reported as being a father or mother (or father-in-law or mother-in-law) was also reported as having been born after June 3, 1961;
- (10) a person reported as living with a common-law partner was also reported as "Legally married (and not separated)".

#### b) Between-person edit rules

Edit failure occurred if:

- (1) Person 1 and a person reported as his/her spouse were both recorded as being of the same sex;
- (2) two persons reported as father and mother (or father-in-law and mother-in-law) were also reported as being of the same sex;
- (3) Person 1 was reported as not "Legally married (and not separated)", but another person was reported as his/her spouse;
- (4) Person 1 was reported as "Never married (single)" and another person was reported as a "Never married" brother-in-law or sister-in-law;
- (5) two persons were reported as father and mother (or father-in-law, mother-in-law) and one or both were reported as not married;
- (6) Person 1 was reported as "Never married (single)" and another person was reported as father, mother, father-in-law or mother-in-law;

- (7) the decade of birth reported for a son or daughter, and likewise a grandson or granddaughter, was the same as that reported for Person 1 or his/her spouse;
- (8) the decade of birth reported for a son or daughter preceded 188, or that reported for a grandson or granddaughter preceded 189;
- (9) the decade of birth reported for a father or mother was the same as, or later than, that reported for Person 1;
- (10) the decade of birth reported for a father-in-law or mother-in-law was the same as, or later than, that reported for the spouse of Person 1.

**c) Auxiliary constraints**

- (1) Imputation of a person's sex by matching his/her decade of birth, marital status and relationship to Person 1.
- (2) Imputation of a person's marital status by matching his/her decade of birth, year of birth, sex and relationship to Person 1.
- (3) Imputation of decade of birth for Person 1 by matching his/her marital status and sex.
- (4) Imputation of decade of birth for a person other than Person 1 by matching his/her relationship to Person 1, marital status and sex.
- (5) Imputation of a person's year of birth by matching his/her relationship to Person 1, decade of birth and marital status.

## APPENDIX TABLES



**Table A1. Discrepancy Between Enumerated Population and Estimated Population, by Age Group and Sex, Provinces and Territories, 1991**

Age group	1991 Census			Estimates			Discrepancy (%)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Newfoundland</b>									
Total	283,840	284,635	568,475	286,300	287,900	574,200	-0.9	-1.1	-1.0
0-4	18,950	18,290	37,240	19,600	18,800	38,400	-3.4	-2.8	-3.1
5-9	21,995	21,115	43,110	22,300	21,600	43,900	-1.5	-2.2	-1.9
10-14	24,220	23,355	47,575	25,000	23,900	48,900	-3.0	-2.1	-2.6
15-19	28,135	25,970	54,105	27,000	25,400	52,400	4.3	2.4	3.4
20-24	24,015	23,620	47,635	26,000	25,600	51,600	-7.6	-7.7	-7.6
25-29	23,020	23,940	46,960	23,600	24,100	47,700	-2.5	-0.7	-1.6
30-34	23,210	24,310	47,520	22,900	23,900	46,900	1.2	1.6	1.4
35-39	23,255	23,585	46,840	23,000	23,600	46,600	1.1	-0.2	0.5
40-44	21,585	21,165	42,750	21,700	21,500	43,200	-0.4	-1.5	-0.9
45-49	16,555	16,130	32,685	16,500	16,200	32,700	0.3	-0.6	-0.2
50-54	12,760	12,150	24,910	12,600	12,200	24,800	1.5	-0.4	0.6
55-59	11,175	10,645	21,820	11,200	10,700	21,900	-0.0	-0.5	-0.3
60-64	10,075	10,090	20,165	10,000	10,200	20,200	0.7	-1.0	-0.1
65-69	8,840	9,170	18,010	8,800	9,100	18,000	0.2	0.3	0.2
70-74	7,160	8,100	15,260	7,100	8,200	15,300	0.3	-0.7	-0.2
75-79	4,945	6,355	11,300	4,900	6,300	11,100	1.9	1.1	1.5
80-84	2,575	3,800	6,375	2,800	3,900	6,700	-7.3	-2.2	-4.3
85-89	960	1,805	2,765	1,000	1,800	2,700	-2.2	3.0	1.1
90+	425	1,040	1,465	400	1,000	1,400	13.3	1.7	4.8
<b>Prince Edward Island</b>									
Total	63,970	65,800	129,770	64,200	66,100	130,300	-0.3	-0.4	-0.4
0-4	4,760	4,735	9,495	4,900	4,900	9,800	-3.3	-3.1	-3.2
5-9	5,095	4,855	9,950	5,100	4,900	10,000	-0.3	-0.3	-0.3
10-14	5,115	4,800	9,915	5,200	4,900	10,000	-1.1	-1.2	-1.2
15-19	5,210	4,815	10,025	5,100	4,700	9,700	2.8	2.9	2.9
20-24	4,685	4,720	9,405	4,900	4,800	9,700	-4.2	-1.0	-2.6
25-29	5,050	5,135	10,185	5,400	5,300	10,700	-6.1	-3.4	-4.8
30-34	5,065	5,340	10,405	5,300	5,500	10,800	-4.6	-2.5	-3.5
35-39	4,915	4,960	9,875	5,000	5,000	10,000	-1.1	-1.7	-1.4
40-44	4,810	4,855	9,665	4,700	4,800	9,500	3.4	0.9	2.2
45-49	3,610	3,475	7,085	3,500	3,400	7,000	1.8	1.3	1.6
50-54	3,010	2,980	5,990	3,000	2,900	5,900	0.3	1.7	1.0
55-59	2,785	2,785	5,570	2,700	2,700	5,400	3.0	2.5	2.7
60-64	2,545	2,575	5,120	2,500	2,600	5,000	3.5	0.6	2.0
65-69	2,360	2,590	4,950	2,300	2,600	4,900	2.9	-0.7	1.0
70-74	1,900	2,420	4,320	1,900	2,400	4,300	-0.7	-0.4	-0.5
75-79	1,500	2,100	3,600	1,300	2,100	3,400	11.8	0.5	4.9
80-84	940	1,380	2,320	900	1,400	2,300	6.9	0.1	2.8
85-89	385	750	1,135	400	700	1,100	1.9	2.0	2.0
90+	225	525	750	200	500	700	17.2	8.0	10.6

**Table A1. Discrepancy Between Enumerated Population and Estimated Population, by Age Group and Sex, Provinces and Territories, 1991**

Age group	1991 Census			Estimates			Discrepancy (%)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Nova Scotia</b>									
<b>Total</b>	<b>441,645</b>	<b>458,295</b>	<b>899,940</b>	<b>441,500</b>	<b>458,100</b>	<b>899,600</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
0-4	31,025	29,945	60,970	31,300	30,400	61,700	-0.9	-1.6	-1.2
5-9	31,665	30,040	61,705	31,100	29,700	60,800	1.8	1.2	1.5
10-14	31,335	30,355	61,690	31,200	30,500	61,700	0.3	-0.4	0.0
15-19	34,455	32,545	67,000	34,000	32,000	66,000	1.3	1.7	1.5
20-24	33,845	33,410	67,255	36,000	34,000	70,100	-6.1	-1.8	-4.0
25-29	38,425	38,980	77,405	40,000	39,600	79,600	-3.9	-1.6	-2.7
30-34	39,055	40,070	79,125	38,600	39,500	78,100	1.2	1.5	1.4
35-39	35,525	36,795	72,320	35,300	36,500	71,800	0.7	0.7	0.7
40-44	33,895	34,040	67,935	33,600	33,900	67,500	0.9	0.3	0.6
45-49	26,455	26,125	52,580	26,100	26,300	52,400	1.4	-0.6	0.4
50-54	21,295	21,435	42,730	21,000	21,300	42,300	1.5	0.6	1.0
55-59	19,415	19,710	39,125	19,100	19,600	38,700	1.5	0.7	1.1
60-64	17,505	19,200	36,705	17,200	19,100	36,300	1.7	0.5	1.1
65-69	16,150	18,775	34,925	15,900	18,800	34,700	1.7	-0.0	0.8
70-74	13,355	17,075	30,430	13,200	17,200	30,500	1.0	-1.0	-0.1
75-79	9,610	13,620	23,230	9,500	13,600	23,200	0.8	-0.0	0.3
80-84	5,485	8,580	14,065	5,200	8,700	13,900	4.8	-1.2	1.1
85-89	2,205	4,810	7,015	2,300	4,700	7,000	-2.3	1.6	0.3
90+	950	2,795	3,745	900	2,700	3,500	11.5	5.0	6.6
<b>New Brunswick</b>									
<b>Total</b>	<b>357,185</b>	<b>366,715</b>	<b>723,900</b>	<b>358,700</b>	<b>368,100</b>	<b>726,800</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-0.4</b>
0-4	24,440	22,920	47,360	24,900	23,600	48,500	-1.8	-3.0	-2.4
5-9	25,830	24,930	50,760	25,800	24,700	50,500	0.2	0.9	0.6
10-14	27,205	25,890	53,095	27,500	26,100	53,600	-1.0	-1.0	-1.0
15-19	29,480	28,110	57,590	29,300	28,000	57,200	0.8	0.5	0.7
20-24	26,965	26,390	53,355	29,400	27,600	57,000	-8.2	-4.3	-6.3
25-29	29,935	30,520	60,455	30,900	30,700	61,600	-3.2	-0.6	-1.9
30-34	30,870	31,440	62,310	30,800	31,200	62,000	0.3	0.8	0.6
35-39	29,670	30,255	59,925	29,400	30,400	59,800	1.0	-0.6	0.2
40-44	28,225	27,705	55,930	27,900	27,800	55,600	1.3	-0.2	0.6
45-49	21,285	20,585	41,870	21,000	20,400	41,400	1.5	0.9	1.2
50-54	16,975	16,760	33,735	16,700	16,600	33,300	1.6	0.8	1.2
55-59	14,950	15,505	30,455	14,600	15,300	30,000	2.2	1.1	1.6
60-64	13,875	15,035	28,910	13,700	15,000	28,800	1.1	0.0	0.5
65-69	13,070	15,105	28,175	12,900	15,100	28,000	1.3	0.4	0.8
70-74	10,255	12,830	23,085	10,100	12,800	22,900	1.5	0.2	0.8
75-79	7,420	10,145	17,565	7,400	10,100	17,500	0.3	0.0	0.1
80-84	4,160	6,840	11,000	4,200	6,800	11,000	-1.6	0.3	-0.4
85-89	1,775	3,640	5,415	1,700	3,700	5,400	2.4	-1.6	-0.4
90+	805	2,100	2,905	600	2,100	2,700	34.4	-0.5	7.2

**Table A1. Discrepancy Between Enumerated Population and Estimated Population, by Age Group and Sex, Provinces and Territories, 1991**

Age group	1991 Census			Estimates			Discrepancy (%)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Quebec</b>									
Total	3,377,670	3,518,295	6,895,965	3,353,700	3,491,300	6,845,000	0.7	0.8	0.7
0-4	227,410	217,925	445,335	231,100	219,800	450,900	-1.6	-0.9	-1.2
5-9	230,135	218,560	448,695	227,100	215,600	442,800	1.3	1.4	1.3
10-14	248,410	235,735	484,145	247,300	233,500	480,800	0.5	0.9	0.7
15-19	230,945	220,285	451,230	229,200	217,900	447,000	0.8	1.1	1.0
20-24	239,400	235,105	474,505	245,500	236,100	481,600	-2.5	-0.4	-1.5
25-29	298,635	298,300	596,935	300,600	296,600	597,300	-0.7	0.6	-0.1
30-34	320,120	323,895	644,015	315,500	319,700	635,200	1.5	1.3	1.4
35-39	294,535	297,705	592,240	290,100	294,600	584,700	1.5	1.1	1.3
40-44	269,470	272,655	542,125	265,000	269,500	534,500	1.7	1.2	1.4
45-49	225,670	227,880	453,550	222,400	225,300	447,700	1.5	1.1	1.3
50-54	175,050	179,215	354,265	173,200	178,000	351,100	1.1	0.7	0.9
55-59	158,965	167,820	326,785	156,300	166,000	322,300	1.7	1.1	1.4
60-64	146,875	164,330	311,205	143,900	162,200	306,100	2.1	1.3	1.7
65-69	122,280	149,755	272,035	119,400	147,000	266,400	2.4	1.9	2.1
70-74	84,515	116,505	201,020	83,500	115,500	198,900	1.3	0.9	1.1
75-79	56,660	89,555	146,215	55,900	89,600	145,500	1.4	-0.1	0.5
80-84	30,860	58,610	89,470	30,700	58,700	89,400	0.5	-0.1	0.1
85-89	12,675	30,210	42,885	12,600	30,800	43,400	0.9	-2.1	-1.2
90+	5,055	14,250	19,305	4,600	14,800	19,300	10.5	-3.5	-0.2
<b>Ontario</b>									
Total	4,953,080	5,131,810	10,084,890	4,868,700	5,037,700	9,906,400	1.7	1.9	1.8
0-4	362,870	344,725	707,595	366,200	348,900	715,100	-0.9	-1.2	-1.1
5-9	353,495	335,895	689,390	342,400	326,000	668,400	3.2	3.1	3.1
10-14	337,520	320,745	658,265	329,400	313,400	642,800	2.5	2.3	2.4
15-19	349,015	330,045	679,060	340,300	322,700	663,000	2.6	2.3	2.4
20-24	370,570	370,530	741,100	376,700	363,600	740,300	-1.6	1.9	0.1
25-29	449,260	455,725	904,985	441,200	440,200	881,500	1.8	3.5	2.7
30-34	452,190	462,665	914,855	441,500	447,600	889,000	2.4	3.4	2.9
35-39	405,085	421,390	826,475	396,200	411,700	807,900	2.3	2.4	2.3
40-44	382,390	389,500	771,890	374,300	382,100	756,400	2.2	1.9	2.1
45-49	301,520	300,595	602,115	295,900	296,000	591,800	1.9	1.6	1.7
50-54	248,565	248,620	497,185	243,100	245,700	488,800	2.2	1.2	1.7
55-59	228,850	232,170	461,020	225,000	229,700	454,700	1.7	1.1	1.4
60-64	218,390	229,085	447,475	213,900	226,400	440,300	2.1	1.2	1.6
65-69	187,665	223,405	411,070	182,900	219,400	402,300	2.6	1.8	2.2
70-74	132,360	170,175	302,535	129,200	168,900	298,000	2.5	0.8	1.5
75-79	92,210	132,035	224,245	91,000	131,700	222,700	1.3	0.3	0.7
80-84	50,470	87,970	138,440	50,100	88,200	138,200	0.8	-0.3	0.1
85-89	21,855	49,345	71,200	21,800	49,400	71,100	0.5	-0.1	0.1
90+	8,800	27,190	35,990	7,700	26,300	34,000	14.0	3.5	5.9

**Table A1. Discrepancy Between Enumerated Population and Estimated Population, by Age Group and Sex, Provinces and Territories, 1991**

Age group	1991 Census			Estimates			Discrepancy (%)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Manitoba</b>									
Total	538,525	553,415	1,091,940	540,000	556,200	1,096,200	-0.3	-0.5	-0.4
0-4	41,990	40,145	82,135	43,700	41,500	85,200	-3.9	-3.3	-3.6
5-9	41,245	39,075	80,320	41,100	38,900	80,000	0.4	0.5	0.4
10-14	39,500	37,770	77,270	39,200	37,600	76,800	0.8	0.4	0.6
15-19	41,455	38,755	80,210	40,500	38,200	78,800	2.2	1.4	1.8
20-24	39,870	39,065	78,935	41,900	39,900	81,800	-4.9	-2.0	-3.5
25-29	45,615	45,315	90,930	46,900	46,400	93,300	-2.7	-2.3	-2.5
30-34	46,660	45,970	92,630	46,900	45,900	92,900	-0.7	0.1	-0.3
35-39	42,555	42,875	85,430	42,800	42,700	85,500	-0.5	0.4	-0.0
40-44	38,385	38,410	76,795	37,700	38,200	75,900	1.7	0.6	1.2
45-49	29,925	29,675	59,600	29,300	29,400	58,700	2.2	0.8	1.5
50-54	24,520	24,535	49,055	24,200	24,600	48,800	1.2	-0.2	0.5
55-59	23,040	23,225	46,265	22,700	23,500	46,200	1.5	-1.1	0.2
60-64	22,110	23,650	45,760	21,800	23,700	45,500	1.4	-0.1	0.6
65-69	20,640	24,670	45,310	20,500	24,600	45,100	0.8	0.3	0.5
70-74	16,465	20,855	37,320	16,300	21,100	37,400	0.9	-1.1	-0.3
75-79	12,485	17,450	29,935	12,500	17,700	30,200	0.3	-1.5	-0.8
80-84	7,285	11,555	18,840	7,300	11,800	19,100	0.3	-2.3	-1.3
85-89	3,410	6,645	10,055	3,500	6,800	10,300	-2.8	-2.5	-2.6
90+	1,370	3,765	5,135	1,200	3,700	4,900	18.2	2.7	6.4
<b>Saskatchewan</b>									
Total	490,780	498,150	988,930	495,100	501,800	996,800	-0.9	-0.7	-0.8
0-4	40,015	38,155	78,170	41,900	40,000	81,900	-4.6	-4.7	-4.6
5-9	41,545	39,710	81,255	41,200	39,700	80,900	0.8	0.1	0.5
10-14	40,160	37,880	78,040	40,000	37,900	77,900	0.3	0.0	0.2
15-19	37,210	35,940	73,150	36,800	35,200	71,900	1.2	2.1	1.7
20-24	32,315	32,170	64,485	35,600	33,700	69,300	-9.2	-4.5	-7.0
25-29	37,680	38,605	76,285	39,400	39,600	79,000	-4.3	-2.6	-3.4
30-34	40,870	40,785	81,655	40,900	40,400	81,300	-0.1	0.9	0.4
35-39	38,575	37,310	75,885	38,600	37,400	75,900	0.0	-0.2	-0.1
40-44	32,140	31,030	63,170	32,100	31,400	63,500	0.3	-1.3	-0.5
45-49	24,565	24,120	48,685	24,700	24,700	49,300	-0.4	-2.3	-1.3
50-54	21,355	21,465	42,820	21,600	21,700	43,200	-1.0	-1.0	-1.0
55-59	21,260	21,095	42,355	21,000	20,900	41,800	1.4	1.1	1.2
60-64	21,275	21,785	43,060	20,600	21,500	42,100	3.1	1.5	2.3
65-69	19,685	21,570	41,255	19,200	21,300	40,400	2.7	1.5	2.1
70-74	16,420	19,695	36,115	16,100	19,800	35,900	1.8	-0.3	0.6
75-79	12,695	16,505	29,200	12,500	16,500	29,000	1.6	0.1	0.8
80-84	7,645	10,975	18,620	7,600	10,900	18,500	0.3	0.6	0.4
85-89	3,685	6,075	9,760	3,800	6,100	9,900	-3.4	-0.1	-1.4
90+	1,675	3,290	4,965	1,600	3,300	4,900	4.3	-0.2	1.3

**Table A1. Discrepancy Between Enumerated Population and Estimated Population, by Age Group and Sex, Provinces and Territories, 1991**

Age group	1991 Census			Estimates			Discrepancy (%)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Alberta</b>									
<b>Total</b>	<b>1,277,375</b>	<b>1,268,175</b>	<b>2,545,550</b>	<b>1,263,800</b>	<b>1,257,700</b>	<b>2,521,500</b>	<b>1.1</b>	<b>0.8</b>	<b>1.0</b>
0-4	106,365	101,220	207,585	108,700	104,400	213,100	-2.1	-3.0	-2.6
5-9	106,130	100,850	206,980	103,200	97,600	200,800	2.9	3.3	3.1
10-14	95,830	90,710	186,540	93,400	88,100	181,500	2.6	3.0	2.8
15-19	90,910	87,020	177,930	92,300	88,500	180,700	-1.5	-1.7	-1.6
20-24	97,015	96,425	193,440	100,200	96,400	196,600	-3.2	0.1	-1.6
25-29	117,170	117,555	234,725	113,000	113,200	226,100	3.7	3.9	3.8
30-34	129,675	126,090	255,765	123,900	121,700	245,500	4.7	3.6	4.2
35-39	115,995	110,785	226,780	114,100	110,300	224,400	1.7	0.5	1.1
40-44	95,395	91,835	187,230	95,100	92,500	187,600	0.3	-0.8	-0.2
45-49	70,360	67,910	138,270	70,300	67,700	138,000	0.1	0.3	0.2
50-54	56,110	54,040	110,150	55,800	54,000	109,700	0.6	0.2	0.4
55-59	50,640	48,520	99,160	50,400	48,800	99,200	0.5	-0.7	-0.1
60-64	45,445	44,995	90,440	44,700	45,000	89,700	1.6	0.1	0.8
65-69	36,510	41,075	77,585	35,500	40,400	75,900	2.8	1.7	2.2
70-74	26,855	32,965	59,820	26,700	32,800	59,600	0.5	0.4	0.5
75-79	18,590	25,580	44,170	18,800	25,700	44,500	-1.2	-0.5	-0.8
80-84	10,855	16,650	27,505	10,700	16,900	27,600	1.6	-1.4	-0.2
85-89	5,360	9,085	14,445	5,200	9,300	14,400	3.9	-1.8	0.3
90+	2,160	4,865	7,025	1,900	4,600	6,500	13.4	5.2	7.6
<b>British Columbia</b>									
<b>Total</b>	<b>1,625,975</b>	<b>1,656,090</b>	<b>3,282,065</b>	<b>1,588,000</b>	<b>1,625,200</b>	<b>3,213,200</b>	<b>2.4</b>	<b>1.9</b>	<b>2.1</b>
0-4	112,905	107,925	220,830	113,300	108,200	221,500	-0.4	-0.3	-0.3
5-9	116,640	110,650	220,830	113,100	107,200	220,400	3.1	3.2	0.2
10-14	109,870	104,265	222,290	107,600	102,300	209,900	2.1	1.9	8.3
15-19	108,170	103,550	211,720	105,600	100,200	205,900	2.4	3.3	2.8
20-24	112,795	111,590	224,385	114,900	111,700	226,600	-1.8	-0.1	-1.0
25-29	133,455	134,485	267,940	127,300	129,000	256,300	4.9	4.3	4.6
30-34	145,575	148,565	294,140	137,000	142,400	279,300	6.3	4.3	5.3
35-39	139,520	141,490	281,010	134,500	137,400	271,800	3.7	3.0	3.4
40-44	132,425	130,555	262,980	128,000	127,100	255,100	3.4	2.7	3.1
45-49	101,765	98,185	199,950	98,200	96,300	194,500	3.6	2.0	2.8
50-54	81,935	79,555	161,490	80,000	78,300	158,300	2.5	1.6	2.0
55-59	75,685	72,295	147,980	74,300	71,800	146,100	1.9	0.7	1.3
60-64	72,875	73,330	146,205	72,400	73,100	145,400	0.7	0.4	0.5
65-69	64,720	74,085	138,805	64,300	73,100	137,400	0.7	1.3	1.0
70-74	49,275	61,995	111,270	49,300	62,700	112,000	-0.1	-1.2	-0.7
75-79	36,190	48,675	84,865	36,100	49,100	85,200	0.1	-0.9	-0.5
80-84	19,715	30,170	49,885	19,800	30,500	50,300	-0.7	-0.9	-0.8
85-89	8,895	15,800	24,695	9,000	16,200	25,200	-1.3	-2.7	-2.2
90+	3,550	8,930	12,480	3,200	8,500	11,700	11.4	4.8	6.6

**Table A1. Discrepancy Between Enumerated Population and Estimated Population, by Age Group and Sex, Provinces and Territories, 1991**

Age group	1991 Census			Estimates			Discrepancy (%)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Yukon Territory</b>									
<b>Total</b>	<b>14,485</b>	<b>13,310</b>	<b>27,795</b>	<b>14,000</b>	<b>12,900</b>	<b>26,900</b>	<b>3.5</b>	<b>2.8</b>	<b>3.2</b>
0-4	1,290	1,125	2,415	1,300	1,200	2,500	-1.0	-4.6	-2.7
5-9	1,235	1,180	2,415	1,300	1,100	2,400	-2.2	5.6	1.4
10-14	1,030	975	2,005	1,000	900	1,900	1.2	6.8	3.8
15-19	965	900	1,865	900	900	1,900	2.7	-2.9	-0.1
20-24	1,025	980	2,005	1,000	1,000	2,100	0.3	-6.2	-3.0
25-29	1,270	1,340	2,610	1,300	1,300	2,600	-4.7	4.0	-0.5
30-34	1,480	1,565	3,045	1,600	1,500	3,000	-5.4	5.5	-0.1
35-39	1,560	1,505	3,065	1,400	1,400	2,700	15.5	9.9	12.6
40-44	1,350	1,235	2,585	1,200	1,200	2,400	12.1	4.4	8.3
45-49	1,070	765	1,835	900	700	1,700	14.0	7.0	10.9
50-54	705	550	1,255	600	500	1,200	9.0	6.6	7.9
55-59	510	405	915	500	400	900	6.3	3.9	5.2
60-64	420	270	690	400	300	700	-0.9	-2.9	-1.7
65-69	260	200	460	300	200	500	4.0	-10.3	-2.8
70-74	150	150	300	100	100	200	36.4	7.9	20.5
75-79	85	90	175	100	100	200	19.7	8.4	13.6
80-84	50	50	100	100	0	100	-5.7	8.7	1.0
85-89	15	20	35	0	0	0	87.5	-20.0	6.1
90+	15	15	30	0	0	0	66.7	-25.0	3.5
<b>Northwest Territories</b>									
<b>Total</b>	<b>30,055</b>	<b>27,595</b>	<b>57,650</b>	<b>28,300</b>	<b>26,300</b>	<b>54,600</b>	<b>6.1</b>	<b>4.9</b>	<b>5.5</b>
0-4	3,735	3,630	7,365	3,800	3,600	7,400	-1.0	0.5	-0.3
5-9	3,215	2,975	6,190	2,900	2,800	5,700	11.3	8.1	9.7
10-14	2,725	2,620	5,345	2,500	2,400	4,900	9.4	7.3	8.4
15-19	2,460	2,295	4,755	2,500	2,300	4,800	-3.2	-0.1	-1.7
20-24	2,725	2,655	5,380	2,700	2,500	5,200	0.7	5.7	3.1
25-29	3,065	3,055	6,120	2,700	2,800	5,500	12.4	9.6	11.0
30-34	2,915	2,660	5,575	2,600	2,600	5,100	12.4	4.1	8.3
35-39	2,470	2,155	4,625	2,200	2,000	4,200	11.8	8.2	10.1
40-44	2,110	1,740	3,850	2,000	1,700	3,700	3.6	4.9	4.2
45-49	1,420	1,125	2,545	1,400	1,100	2,500	1.5	5.0	3.0
50-54	1,005	870	1,875	900	800	1,700	15.7	10.7	13.3
55-59	790	655	1,445	700	700	1,400	11.4	-2.0	4.9
60-64	550	430	980	600	500	1,000	-4.8	-6.7	-5.7
65-69	330	260	590	400	300	600	-7.3	-3.7	-5.8
70-74	240	170	410	200	100	300	25.0	14.9	20.6
75-79	150	135	285	100	100	300	20.0	0.0	9.6
80-84	90	80	170	100	100	200	4.7	-2.4	1.2
85-89	35	55	90	0	100	100	-2.8	-1.8	-2.2
90+	25	35	60	0	0	0	56.3	9.4	25.0

**Table A2. Discrepancy Between Population Distribution from GSS(1) and from the 1991 Census, by Age Group, Sex, Legal Marital Status and Provinces, 1991**

Age group	Single	Married	Married/ separated	Widowed	Divorced	Single	Married	Married/ separated	Widowed	Divorced
	Men					Women				
	in percentage point									
Newfoundland										
Total	-2.61	3.53	-0.35	0.56	-1.13	-1.54	4.21	-1.06	-0.62	-0.99
15-19	0.46	-0.39	-0.04	-0.02	-0.02	1.21	-1.12	-0.04	-0.04	-0.02
20-24	-7.85	8.26	-0.27	-0.02	-0.15	-5.49	5.36	0.64	-0.06	-0.42
25-29	-1.86	3.40	-1.19	-0.04	-0.27	-5.13	7.27	-1.34	-0.23	-0.59
30-34	-3.30	8.64	-1.98	-0.13	-3.19	-5.62	9.59	-1.51	-0.51	-1.94
35-39	-9.98	13.92	-2.32	-0.17	-1.44	-6.56	8.07	-0.37	-1.10	-0.02
40-44	-2.47	5.19	2.82	-0.42	-5.14	-5.86	12.63	-2.53	1.90	-6.17
45-49	-3.81	3.85	-2.27	4.38	-2.16	0.33	4.73	-2.23	-0.36	-2.50
50-54	-1.94	6.35	1.27	-1.29	-4.39	20.41	-13.00	-2.06	-1.04	-4.32
55-59	-7.96	-6.91	2.50	1.61	10.71	-2.41	8.81	-1.64	-8.14	3.38
60-64	-4.28	-6.34	-1.64	15.18	-2.93	-4.66	-5.15	-1.68	14.03	-2.63
65-69	-6.19	7.08	-1.53	2.56	-1.98	-1.90	-14.77	-1.15	19.45	-1.69
70-74	6.31	-4.61	-1.33	-1.89	1.51	-2.62	0.48	-1.17	4.05	-0.68
75-79	-2.50	0.30	-1.31	4.52	-0.91	1.56	-14.01	-0.79	3.43	9.81
Prince Edward Island										
Total	1.36	2.33	0.10	-1.99	-1.80	-5.24	11.40	-1.12	-4.58	-0.46
15-19	0.77	-0.58	-0.10	-0.10	0.00	1.35	-1.14	-0.10	0.00	0.00
20-24	-0.89	1.64	-0.53	-0.11	-0.21	-8.88	10.68	-1.17	-0.11	-0.64
25-29	-10.48	14.14	-2.27	-0.10	-1.29	4.48	-4.94	-3.31	-0.29	3.86
30-34	-12.96	8.13	8.98	-0.30	-4.05	-11.29	10.58	1.44	-0.56	-0.06
35-39	-2.17	11.01	-3.46	-0.20	-5.18	8.37	-30.37	4.29	-1.11	19.02
40-44	27.76	-16.23	-3.64	-0.31	-7.59	-7.73	17.18	-2.25	-1.65	-5.55
45-49	-5.05	4.03	-0.92	-0.55	2.49	-6.32	16.27	-4.02	-3.45	-2.48
50-54	-9.30	19.77	-3.32	-1.33	-5.98	-5.70	10.25	-3.69	-2.92	2.24
55-59	2.20	-2.75	-2.87	-2.15	5.40	-5.75	25.67	-2.69	-11.85	-5.39
60-64	13.67	-7.51	2.29	-4.52	-3.93	3.95	10.05	-2.13	-7.41	-4.26
65-69	6.09	-4.71	2.70	-0.90	-3.39	9.01	1.32	1.55	-9.76	-2.51
70-74	-4.84	19.05	-2.63	-10.00	-1.84	-6.82	26.91	-1.86	-18.96	0.73
75-79	-4.82	14.15	-1.67	-6.00	-1.33	-9.05	15.11	-1.19	-3.68	-1.67
Nova Scotia										
Total	-0.99	-0.54	0.50	1.29	-0.27	0.66	-0.08	0.74	-1.11	-0.20
15-19	0.42	-0.30	-0.06	-0.03	-0.03	1.35	-1.14	-0.10	0.00	0.00
20-24	3.83	-6.34	-0.46	3.17	-0.21	5.27	-6.22	-0.24	-0.11	1.18
25-29	-5.61	-0.65	2.26	-0.08	4.06	4.62	-4.51	1.36	-0.29	-1.37
30-34	-8.44	-0.55	0.13	-0.10	8.95	-0.65	-2.77	-0.45	-0.56	4.52
35-39	-6.94	4.66	3.00	-0.21	-0.50	2.50	-13.75	4.77	3.06	3.62
40-44	6.06	3.84	-2.23	-0.47	-7.20	-6.09	1.85	-3.05	-1.65	8.94
45-49	-0.41	12.43	-2.26	-0.76	-8.96	-3.41	9.44	-2.44	-2.10	-1.49
50-54	-3.38	-2.58	9.39	-1.31	-2.14	-2.65	-0.68	5.00	-0.16	-1.34
55-59	-5.52	-0.57	4.16	1.92	-0.01	12.17	-11.60	2.91	-0.94	-2.54
60-64	3.12	-13.36	-2.60	12.25	0.61	-7.17	6.14	5.28	-3.24	-0.82
65-69	0.70	2.14	-2.51	1.46	-1.83	6.25	-12.08	-1.54	8.84	-1.85
70-74	-4.54	2.36	-1.80	2.15	1.83	-2.24	-0.36	-0.24	2.31	0.53
75-79	-7.50	12.02	-1.93	-0.10	-2.50	0.29	-8.12	-1.19	3.14	5.41

**Table A2. Discrepancy Between Population Distribution from GSS(1) and from the 1991 Census, by Age Group, Sex, Legal Marital Status and Provinces, 1991**

Age group	Single	Married	Married/ separated	Widowed	Divorced	Single	Married	Married/ separated	Widowed	Divorced
Men					Women					
in percentage point										
New Brunswick										
Total	-3.70	4.12	0.95	0.39	-1.76	-0.80	1.08	-0.42	-0.05	0.18
15-19	0.56	-0.41	-0.07	-0.03	-0.03	1.42	-1.19	-0.11	-0.07	-0.05
20-24	-23.02	23.71	-0.41	-0.02	-0.24	-23.28	21.95	2.17	-0.09	-0.70
25-29	-0.89	3.46	-0.73	-0.07	-1.79	-3.29	9.58	-3.70	-0.26	-2.31
30-34	-2.28	7.58	-0.98	-0.11	-4.21	14.80	-17.29	-0.08	0.72	1.87
35-39	-2.60	-1.78	5.23	-0.19	-0.65	-1.71	2.35	1.15	1.52	-3.34
40-44	-1.56	2.48	1.52	-0.48	-1.94	0.94	2.23	4.06	-2.04	-5.17
45-49	-8.22	8.02	7.73	-0.99	-6.54	-4.28	-5.14	-4.62	0.80	13.23
50-54	-8.10	5.59	7.29	-1.30	-3.46	-4.20	12.81	-3.88	0.43	-5.16
55-59	1.46	8.86	-3.84	-2.51	-3.96	-6.19	-12.85	-3.32	10.74	11.62
60-64	-8.58	-16.42	0.47	19.04	5.49	11.16	-10.41	-2.76	6.40	-4.36
65-69	-0.43	-0.02	-1.21	3.59	-1.90	-4.41	-5.39	5.94	1.46	2.39
70-74	-4.80	13.20	-2.54	-3.47	-2.39	-0.16	-1.63	-1.83	5.65	-2.03
75-79	-7.68	5.22	-2.29	-5.99	10.87	-7.50	7.26	-1.33	-0.92	2.49
Quebec										
Total	-0.42	0.97	0.02	-0.79	0.21	-2.76	2.38	0.49	-2.12	2.00
15-19	0.43	-0.31	-0.04	-0.03	-0.05	-0.74	0.93	-0.07	-0.07	-0.06
20-24	1.79	-2.03	-0.25	-0.04	0.54	-3.97	4.94	-0.22	-0.09	-0.66
25-29	-3.36	2.77	1.70	-0.06	-1.06	-4.76	-0.83	2.53	-0.19	3.24
30-34	9.50	-8.49	-0.41	-0.14	-0.47	-5.16	5.41	-0.44	0.19	0.00
35-39	-4.22	5.80	-2.00	-0.29	0.70	-6.04	3.68	1.68	1.06	-0.39
40-44	-7.71	2.85	1.53	-0.54	3.87	-0.64	-0.64	0.81	-0.99	1.46
45-49	0.17	-0.88	0.62	-0.95	1.04	-6.41	-9.74	3.39	-0.42	13.18
50-54	-1.36	4.82	0.54	-1.69	-2.31	-2.64	5.75	-1.07	-5.47	3.43
55-59	-7.63	-1.77	5.80	1.64	1.96	-2.52	11.38	-1.09	-5.53	-2.24
60-64	-5.37	6.02	-3.23	3.29	-0.71	-4.96	1.30	1.67	-3.70	5.70
65-69	-4.13	10.57	-2.22	-4.43	0.22	-3.02	-1.82	-1.59	5.37	1.06
70-74	-6.33	14.94	-2.67	-7.65	1.72	-1.67	6.40	-1.14	-7.80	4.21
75-79	-6.00	10.65	-2.29	-0.21	-2.16	-2.68	3.50	-1.40	1.98	-1.40
Ontario										
Total	-0.70	0.45	0.36	-0.33	0.21	-0.15	1.94	-0.11	-1.75	0.07
15-19	0.65	-0.52	-0.06	-0.03	-0.05	0.88	-0.62	-0.13	-0.07	-0.06
20-24	2.84	-1.98	-0.55	-0.04	-0.27	-0.88	0.79	0.98	-0.10	-0.79
25-29	-8.71	9.71	-0.13	-0.06	-0.81	-3.05	3.16	-0.84	-0.06	0.79
30-34	-1.48	1.22	0.48	-0.13	-0.09	-0.39	1.33	-1.65	-0.07	0.78
35-39	-5.23	3.93	1.89	0.21	-0.80	3.23	-8.08	1.38	0.50	2.97
40-44	-2.22	3.08	-0.94	-0.41	0.48	-3.17	7.68	0.22	-0.05	-4.68
45-49	-1.57	-1.18	2.66	0.07	0.02	-1.69	3.50	-1.83	0.39	-0.37
50-54	3.90	-7.13	1.20	-0.94	2.97	-3.14	2.09	-0.43	-2.50	3.97
55-59	-2.64	0.84	0.74	-0.86	1.92	-2.99	0.87	1.48	2.91	-2.26
60-64	1.13	-3.74	0.32	1.18	1.11	-3.25	10.85	-0.12	-7.49	0.01
65-69	-2.56	4.96	-0.46	-1.79	-0.14	-0.89	-2.46	1.12	3.80	-1.57
70-74	-2.74	-4.30	-0.11	3.02	4.12	1.82	6.50	-0.76	-6.99	-0.57
75-79	0.95	-0.22	1.39	-1.01	-1.11	3.86	-3.00	-1.34	0.30	0.18



**Table A2. Discrepancy Between Population Distribution from GSS(1) and from the 1991 Census, by Age Group, Sex, Legal Marital Status and Provinces, 1991**

Age group	Single	Married	Married/ separated	Widowed	Divorced	Single	Married	Married/ separated	Widowed	Divorced
Men					Women					
in percentage point										
Manitoba										
Total	-2.40	4.72	-0.46	-0.75	-1.11	0.85	0.34	-0.37	-1.30	0.47
15-19	0.63	-0.49	-0.06	-0.02	-0.04	1.94	-1.72	-0.13	-0.05	-0.04
20-24	5.26	-4.48	-0.49	-0.04	-0.24	3.47	-6.47	1.67	-0.12	1.45
25-29	-11.18	14.33	-0.85	-0.07	-2.23	-1.42	0.53	1.08	-0.22	0.04
30-34	-17.78	21.35	-3.21	-0.11	-0.25	-1.63	3.72	-1.28	-0.44	-0.36
35-39	3.21	0.63	-3.76	-0.26	0.18	-0.15	2.65	-2.83	4.25	-3.90
40-44	-1.25	7.44	-3.76	-0.46	-1.98	5.09	-4.17	-1.15	-1.73	1.93
45-49	-8.87	3.55	11.00	-0.72	-4.95	-6.72	-8.65	6.89	0.30	8.16
50-54	-1.59	-1.53	-0.24	-1.41	4.74	12.35	0.05	-1.90	-4.03	-6.45
55-59	0.58	4.72	1.52	-0.12	-6.68	-5.47	9.28	-3.19	0.28	-0.91
60-64	4.70	-10.41	0.39	5.52	-0.18	-5.67	10.44	-2.45	-4.08	1.76
65-69	-5.82	9.13	1.17	-0.46	-4.00	3.00	6.78	-0.49	-11.67	2.38
70-74	-8.47	-3.91	1.40	1.46	9.52	-0.88	-9.79	-1.70	6.17	6.21
75-79	-0.74	11.93	-2.08	-6.66	-2.44	-5.11	-0.93	-1.23	9.51	-2.26
Saskatchewan										
Total	-1.18	3.44	0.40	-0.58	-2.08	-1.50	-1.42	1.18	-1.38	3.12
15-19	0.46	-0.34	-0.04	-0.04	-0.04	1.57	-1.35	-0.11	-0.07	-0.04
20-24	1.31	-0.45	-0.48	-0.05	-0.31	-9.37	5.86	2.51	-0.08	1.10
25-29	-23.43	23.56	2.15	-0.04	-2.23	-9.93	12.82	-3.10	-0.27	0.48
30-34	1.52	4.51	-2.70	-0.12	-3.21	-1.22	10.61	-3.72	-0.58	-5.11
35-39	-2.05	1.28	3.26	-0.22	-2.30	0.91	-1.57	0.41	-0.92	1.19
40-44	-5.32	2.74	1.77	1.68	-0.86	2.18	-23.52	14.00	1.33	6.03
45-49	16.32	-10.55	2.56	-0.81	-7.55	-5.00	-2.30	-3.44	-3.48	14.22
50-54	-4.38	6.53	-2.93	1.62	-0.84	0.05	-21.71	-2.73	6.03	18.36
55-59	-6.71	11.93	3.01	-2.16	-6.04	-1.37	-15.06	12.61	3.85	-0.01
60-64	12.63	-6.29	-2.26	-3.55	-0.56	4.63	-17.08	3.01	1.48	7.91
65-69	-2.63	7.61	-0.69	-4.07	-0.22	-4.02	-3.11	4.22	2.76	0.18
70-74	-4.33	1.62	-1.89	7.16	-2.56	-2.16	-7.11	-1.50	13.29	-2.56
75-79	-2.24	1.29	6.20	-6.37	1.11	-6.87	13.82	-1.12	-10.43	4.61
Alberta										
Total	-1.27	0.22	0.17	0.49	0.39	-0.05	2.04	0.53	-2.16	-0.36
15-19	0.63	-0.52	-0.04	-0.03	-0.04	0.71	-0.45	-0.13	-0.05	-0.07
20-24	-11.70	12.70	-0.55	-0.04	-0.41	1.26	-0.39	-0.24	-0.09	-0.53
25-29	-1.32	1.91	-1.22	-0.06	0.69	-8.48	7.35	0.96	-0.23	0.42
30-34	5.11	-4.73	-0.24	-0.12	-0.02	-4.58	-2.39	4.60	-0.45	2.83
35-39	-4.00	-0.88	-1.34	-0.22	6.44	1.32	8.24	-3.28	-0.91	-5.38
40-44	-4.64	-1.95	6.47	-0.40	0.53	-4.29	10.21	-1.71	-1.60	-2.61
45-49	-7.23	9.38	2.05	2.05	-6.25	3.32	-17.89	-3.68	1.60	16.65
50-54	-6.26	7.81	-1.13	3.95	-4.35	0.58	0.44	0.53	1.91	-3.47
55-59	-1.97	-2.28	2.84	-2.10	3.54	0.02	13.64	-0.63	-2.92	-10.10
60-64	-5.58	-5.28	-2.42	11.53	1.74	0.26	11.87	3.72	-13.95	-1.92
65-69	-0.43	-2.58	-2.08	3.42	1.67	-2.72	2.42	-2.03	4.68	-2.34
70-74	-3.55	0.55	-1.15	2.44	1.66	-0.11	-6.16	8.69	-0.38	-2.03
75-79	15.20	-3.95	-1.96	-6.69	-2.59	8.66	-17.96	4.06	5.36	-0.11

**Table A2. Discrepancy Between Population Distribution from GSS(1) and from the 1991 Census, by Age Group, Sex, Legal Marital Status and Provinces, 1991**

Age group	Single	Married	Married/ separated	Widowed	Divorced	Single	Married	Married/ separated	Widowed	Divorced
Men					Women					
in percentage point										
British Columbia										
Total	0.92	-1.46	-0.22	0.33	0.44	1.34	-0.60	-0.36	-0.54	0.17
15-19	0.58	-0.46	-0.05	-0.03	-0.04	-2.05	0.40	1.76	-0.05	-0.06
20-24	5.40	-4.41	-0.62	-0.03	-0.34	17.22	-14.46	-1.78	-0.10	-0.88
25-29	-2.29	1.33	1.98	-0.04	-0.98	-2.84	4.77	-2.76	-0.23	1.07
30-34	0.36	-0.47	-0.47	-0.12	0.69	-0.64	0.42	-0.54	0.01	0.74
35-39	-3.79	-2.44	1.36	-0.23	5.11	-6.95	7.20	2.06	-0.90	-1.42
40-44	8.94	-0.72	-4.30	2.51	-6.44	1.98	2.01	0.70	-0.58	-4.12
45-49	-7.02	-3.35	2.41	-0.69	8.65	-1.64	-4.02	1.72	-1.93	5.86
50-54	1.08	1.45	-0.77	-1.19	-0.57	-2.87	4.88	-1.01	3.15	-4.16
55-59	1.14	-2.81	3.86	-0.44	-1.75	-1.92	6.40	-3.40	-1.56	0.48
60-64	-2.51	1.22	-3.05	4.52	-0.18	0.46	-15.05	-1.45	10.38	5.67
65-69	-3.00	2.76	-1.89	2.07	0.07	-0.40	-5.20	-0.95	2.19	4.36
70-74	-0.78	-12.16	-1.21	12.36	1.82	-2.85	13.87	-2.10	-5.76	-3.16
75-79	-4.89	-2.51	-1.13	3.95	4.58	6.55	-2.38	2.65	-8.22	1.40

**Table A3. Ratio of Enumerated Population to Estimated Population, by Age Group, Sex, Marital Status and Provinces, 1991**

Age group	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
Men				Women				
Newfoundland								
Total	0.94	1.02	0.96	0.78	0.90	1.02	0.98	0.82
15-19	1.04	4.04	5.00	-	1.00	3.08	-	0.00
20-24	0.86	1.49	0.00	0.38	0.79	1.40	0.50	0.46
25-29	0.82	1.12	0.48	0.49	0.80	1.07	1.39	0.71
30-34	0.89	1.04	0.67	0.62	0.94	1.01	1.12	0.82
35-39	0.94	1.01	0.71	0.79	0.95	0.99	0.89	0.80
40-44	0.97	0.98	1.08	0.86	0.91	0.98	0.89	0.79
45-49	0.98	0.99	1.07	0.88	0.99	0.98	0.91	0.91
50-54	0.98	1.01	1.03	0.82	1.02	0.98	0.95	0.94
55-59	1.03	0.98	0.98	0.96	0.98	0.99	0.97	0.90
60-64	1.07	1.00	0.91	0.83	1.00	0.98	0.97	0.81
65-69	1.08	0.98	0.96	0.91	1.00	1.00	0.98	1.12
70-74	0.98	0.99	1.02	0.75	0.97	0.98	0.98	1.00
75-79	1.03	1.02	0.94	0.87	1.05	0.94	1.04	1.00
Prince Edward Island								
Total	0.97	0.98	1.13	0.92	0.99	0.96	0.99	0.97
15-19	1.01	9.29	-	-	1.00	4.10	-	-
20-24	0.91	1.21	0.00	0.63	0.90	1.21	2.50	0.96
25-29	0.91	0.94	-	0.59	1.22	0.87	0.83	0.70
30-34	1.00	0.92	1.67	0.75	1.01	0.92	1.67	1.07
35-39	1.01	0.97	0.50	0.82	0.92	0.94	1.32	1.02
40-44	0.98	1.00	1.50	1.06	1.06	0.96	0.98	0.93
45-49	1.04	1.00	0.91	0.73	1.00	0.98	0.99	0.94
50-54	1.02	0.98	0.83	1.01	1.04	0.97	1.23	0.95
55-59	1.05	1.00	1.02	1.05	1.12	1.00	0.97	0.89
60-64	1.05	0.99	1.39	1.02	1.07	0.98	0.95	1.18
65-69	1.15	0.97	1.13	1.33	1.03	0.96	0.98	1.18
70-74	1.00	0.94	1.12	1.43	0.96	0.98	0.99	0.93
75-79	1.06	1.10	1.12	1.33	1.03	1.03	0.96	1.07
Nova Scotia								
Total	0.94	1.01	0.99	0.78	0.96	0.99	0.99	0.85
15-19	1.00	4.51	-0.63	-1.25	0.99	3.46	3.75	3.33
20-24	0.86	1.54	-1.43	0.41	0.86	1.31	1.25	0.57
25-29	0.84	1.07	1.00	0.45	0.96	0.98	0.58	0.55
30-34	1.04	1.00	0.58	0.56	1.10	0.98	0.84	0.75
35-39	1.07	0.98	1.14	0.75	1.01	0.98	0.88	0.81
40-44	0.99	1.00	1.05	0.79	1.01	0.97	1.01	0.88
45-49	1.03	1.00	1.01	0.81	0.99	0.97	0.96	0.91
50-54	1.10	0.99	0.90	0.87	1.03	0.98	0.96	0.97
55-59	1.09	0.99	0.98	0.96	1.04	0.98	0.96	1.01
60-64	1.11	0.99	0.96	0.95	1.02	0.98	0.99	1.02
65-69	1.07	0.99	0.98	1.09	0.99	0.98	0.98	1.00
70-74	1.00	0.99	1.00	1.11	0.98	0.95	1.00	1.01
75-79	1.00	0.99	1.00	0.89	1.01	0.94	1.02	0.89

**Table A3. Ratio of Enumerated Population to Estimated Population, by Age Group, Sex, Marital Status and Provinces, 1991**

Age group	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
	Men				Women			
New Brunswick								
Total	0.93	1.00	1.03	0.80	0.94	0.99	1.01	0.83
15-19	1.00	6.00	2.50	-	0.98	3.59	5.00	2.50
20-24	0.83	1.56	0.33	0.78	0.80	1.36	0.96	0.68
25-29	0.84	1.07	0.77	0.61	0.95	0.98	1.00	0.66
30-34	1.06	0.97	0.49	0.67	1.12	0.96	0.95	0.81
35-39	1.05	0.99	0.93	0.71	1.00	0.97	0.81	0.78
40-44	1.07	0.99	0.92	0.81	1.03	0.96	1.04	0.84
45-49	1.02	0.99	1.04	0.81	0.98	0.98	1.02	0.85
50-54	1.06	0.99	0.98	0.83	1.03	0.98	0.99	0.84
55-59	1.01	0.99	1.00	0.91	1.03	0.97	1.03	0.93
60-64	1.03	0.97	1.07	1.01	1.02	0.97	0.99	0.90
65-69	1.02	0.97	1.09	1.02	1.04	0.96	1.02	0.96
70-74	1.02	0.99	1.02	0.99	1.09	0.95	1.01	0.93
75-79	1.02	0.96	1.06	1.03	1.06	0.92	1.02	0.98
Quebec								
Total	0.92	1.07	0.90	0.68	0.89	1.05	0.98	0.82
15-19	1.00	10.67	11.67	-25.00	0.97	6.46	20.71	-12.00
20-24	0.84	2.57	0.96	0.93	0.76	2.00	0.83	0.88
25-29	0.76	1.34	1.27	0.58	0.76	1.16	0.75	0.66
30-34	0.93	1.06	1.39	0.53	0.95	1.03	0.82	0.68
35-39	1.04	1.03	0.93	0.58	0.99	1.01	0.89	0.76
40-44	1.09	1.02	0.96	0.67	1.02	1.00	0.93	0.83
45-49	1.09	1.02	0.93	0.71	1.03	0.99	0.95	0.87
50-54	1.07	1.01	0.89	0.74	1.03	0.98	0.95	0.89
55-59	1.05	1.01	0.88	0.80	1.03	0.98	0.96	0.94
60-64	1.07	1.00	0.91	0.84	1.04	0.98	0.99	0.93
65-69	1.08	1.00	0.94	0.87	1.04	0.98	1.02	0.91
70-74	1.09	1.00	0.89	0.81	1.04	0.99	0.99	0.84
75-79	1.11	1.03	0.84	0.81	1.01	1.00	0.97	0.83
Ontario								
Total	1.01	1.00	1.00	0.77	1.03	0.98	1.01	0.87
15-19	1.02	4.07	8.46	6.90	1.00	2.01	14.06	2.46
20-24	0.95	1.20	0.90	0.62	0.98	1.08	0.79	0.67
25-29	1.00	1.03	0.83	0.56	1.08	0.99	0.78	0.66
30-34	1.11	0.99	0.94	0.63	1.17	0.98	0.98	0.78
35-39	1.14	0.99	0.95	0.74	1.12	0.98	0.98	0.86
40-44	1.09	0.99	1.03	0.78	1.08	0.98	1.00	0.89
45-49	1.08	0.99	0.98	0.80	1.05	0.98	1.01	0.89
50-54	1.08	1.00	0.96	0.82	1.04	0.98	1.01	0.93
55-59	1.06	1.00	0.95	0.86	1.03	0.98	1.00	0.97
60-64	1.09	1.00	1.00	0.88	1.05	0.98	1.00	0.98
65-69	1.10	1.00	1.04	0.93	1.05	0.98	1.03	0.96
70-74	1.09	1.01	0.98	0.92	1.02	0.97	1.02	0.91
75-79	1.06	0.99	1.01	0.90	1.02	0.95	1.02	0.92

**Table A3. Ratio of Enumerated Population to Estimated Population, by Age Group, Sex, Marital Status and Provinces, 1991**

Age group	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
Men				Women				
Manitoba								
Total	0.97	0.99	1.00	0.81	0.96	0.98	0.99	0.87
15-19	1.01	3.83	-	7.50	0.98	2.47	6.25	5.00
20-24	0.88	1.45	1.67	0.39	0.87	1.24	0.95	0.53
25-29	0.91	1.02	1.25	0.58	0.95	0.97	0.81	0.61
30-34	1.05	0.97	0.77	0.64	1.11	0.96	0.98	0.79
35-39	1.06	0.96	1.20	0.78	1.06	0.96	1.00	0.87
40-44	1.10	0.98	1.03	0.87	0.99	0.97	1.06	0.92
45-49	1.10	0.99	0.90	0.86	1.03	0.97	0.99	0.96
50-54	1.08	0.98	0.91	0.86	1.08	0.96	0.94	0.93
55-59	1.11	0.98	0.98	0.91	1.07	0.96	0.95	0.92
60-64	1.09	0.98	1.04	0.92	1.01	0.97	0.98	1.00
65-69	1.06	0.98	1.00	0.91	1.04	0.97	1.01	1.01
70-74	1.09	0.98	1.02	0.98	1.00	0.95	1.00	0.94
75-79	1.10	0.97	0.99	0.85	0.99	0.93	1.00	0.87
Saskatchewan								
Total	0.95	1.00	1.00	0.75	0.95	0.99	1.00	0.82
15-19	1.00	5.37	-	2.50	0.98	4.56	4.17	10.00
20-24	0.82	1.46	0.63	0.56	0.81	1.26	0.54	0.49
25-29	0.88	1.02	0.63	0.47	1.01	0.95	0.87	0.57
30-34	1.05	0.99	0.82	0.56	1.09	0.98	1.19	0.71
35-39	1.03	0.98	1.12	0.77	1.00	0.97	1.02	0.85
40-44	1.06	0.98	1.52	0.74	1.07	0.96	0.84	0.85
45-49	1.02	0.98	1.08	0.76	1.01	0.96	0.95	0.84
50-54	1.09	0.96	1.03	0.84	1.05	0.96	1.01	0.95
55-59	1.08	0.99	1.02	0.81	1.05	0.98	0.99	0.92
60-64	1.10	1.01	0.97	0.94	1.10	0.99	1.00	0.97
65-69	1.05	1.00	1.01	1.00	1.13	0.99	1.00	0.94
70-74	1.05	1.00	0.97	0.94	1.01	0.96	1.01	0.91
75-79	1.03	0.99	1.00	0.95	1.07	0.95	1.01	0.97
Alberta								
Total	0.97	1.02	0.96	0.79	0.96	1.00	1.00	0.87
15-19	0.97	4.56	-15.00	3.75	0.94	2.75	6.43	2.29
20-24	0.87	1.56	1.09	0.69	0.87	1.27	0.68	0.67
25-29	0.98	1.09	0.83	0.56	1.07	1.01	0.81	0.68
30-34	1.15	1.02	0.92	0.64	1.16	1.00	0.86	0.77
35-39	1.10	0.99	1.00	0.78	1.05	0.97	0.92	0.86
40-44	1.08	0.98	0.79	0.82	1.02	0.96	0.95	0.86
45-49	1.07	0.99	0.92	0.81	1.05	0.98	0.96	0.91
50-54	1.03	0.99	0.84	0.88	1.02	0.97	0.99	0.98
55-59	1.07	0.99	0.86	0.89	1.01	0.97	0.97	0.95
60-64	1.09	0.99	0.98	0.93	1.04	0.98	0.97	1.01
65-69	1.04	1.01	1.05	0.97	1.04	0.99	1.00	1.01
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75-79	0.98	0.97	0.93	0.99	1.02	0.94	1.02	0.86

**Table A3. Ratio of Enumerated Population to Estimated Population, by Age Group, Sex, Marital Status and Provinces, 1991**

Age group	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
	Men				Women			
	British Columbia							
Total	1.01	1.00	0.95	0.88	1.01	0.99	1.00	0.94
15-19	1.01	8.10	4.38	2.31	1.00	3.15	5.50	2.65
20-24	0.89	1.65	0.55	0.76	0.88	1.28	0.83	0.70
25-29	1.02	1.06	0.37	0.63	1.14	0.97	0.85	0.69
30-34	1.23	0.99	0.89	0.70	1.24	0.97	0.99	0.82
35-39	1.20	0.98	0.90	0.85	1.15	0.97	0.94	0.94
40-44	1.14	0.98	0.80	0.94	1.11	0.97	0.99	0.96
45-49	1.09	1.00	0.90	0.91	1.07	0.97	1.01	0.97
50-54	1.01	1.00	0.91	0.91	1.02	0.98	0.98	0.99
55-59	1.03	0.99	0.90	0.94	1.00	0.97	0.96	0.99
60-64	1.01	0.98	0.93	0.98	0.97	0.97	0.97	1.02
65-69	1.00	0.98	0.99	1.00	0.97	0.97	1.02	1.04
70-74	1.02	0.98	0.98	0.93	0.95	0.95	0.99	0.96
75-79	1.04	0.98	0.96	1.00	0.98	0.94	1.01	0.91

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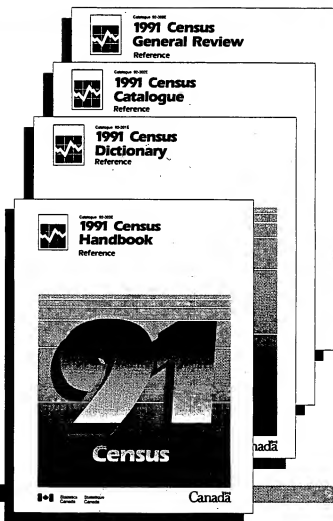
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